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Successors' Characteristics, Preparation, Innovation, and Firm Performance: Taiwan and Japan

Jeng Liu[1]

[1]Professor, Department of Sociology, Dean, College of Social Sciences, Tunghai University, Taiwan, Province of China

Correspondence: Jeng Liu, Professor, Department of Sociology, Dean, College of Social Sciences, Tunghai University, Taiwan, Province of China.

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Abstract

Recent research has revisited business succession. Although important issues have been discussed from time to time, no consensus on any particular pattern of succession has emerged. Lacking a body of empirical findings to draw upon, discussions of business succession are often based on limited qualitative case studies and findings vary widely among researchers. In this research, we focus on both theoretical explanations and data promotion, and draw the following conclusions.

First, there are some differences in the corporate culture and business philosophy between Taiwanese and Japanese enterprises, and the training of successors is also different. Second, the number of female successors has been increasing in both Taiwan and Japan, while in Taiwan female successors have become even more open and innovative than their male counterparts. Third, successors in Taiwan and Japan make various kinds of preparations. The successors are expected to start from the front-line to win the loyalty of employees and managers, to keep in touch with front-line employees, to learn the enterprise's operating mode, and to think about a future development strategy. Fourth, the grown-up environment of the successor also plays an important role and has a great influence on the successor. Last, but not least, many well-known disputes have occurred in the enterprise succession process both in Taiwan and Japan, and the support provided by the previous generation and the "veterans" will make the succession process go smoothly.

Keywords: business succession, corporate philosophy, preparation and innovation, firm performance

1. Introduction and the Significance of this Study

Many scholars have devoted much effort over a long period of time to explore how Taiwanese corporations have used social connection networks based on unique Chinese-style sentimentality to expand their businesses and acquire a position in the global market. In recent years, as first generation business owners have gradually passed away or retired, succession arrangements have become crucial topics for sustainable corporate development, and have become a focus of attention in society as a whole. However, the issues related to business succession and inheritance have not received much attention from sociologists.

According to data released by China Credit Information Service Ltd.[CCIS] (2013), the managers of Taiwan's top one hundred groups are aging seriously: 63% of them are in their sixties, and 20% are in their seventies. These aging group corporations hold over NT$41 trillion in assets (or 3 times the annual gross domestic product of Taiwan). If these groups are unable to complete their succession smoothly, serious damage to the Taiwan economy may result. Group corporations are facing a succession problem, and small and medium enterprises (SMEs), which have played an important role in creating the "economic miracle" in Taiwan, are also struggling to achieve a smooth succession. Furthermore, about 80% of Taiwanese people work in SMEs. The effects of this succession problem on the overall economic growth and social stability in Taiwan cannot be overlooked. Therefore, from an academic perspective, corporate succession and inheritance is not only an issue for business administration and management, but is also an important social fact that merits closer investigation.

In order to clearly grasp the characteristics demonstrated by Taiwanese corporations when faced with the issue of succession, this study will employ several analytical dimensions, including a firm's corporate scale, corporate compositional structure type, succession stage, and successor gender for an in-depth comparative analysis.

Another focus is the succession pattern of family businesses and non-family businesses. Compared to succession at non-family businesses, whether family businesses can smoothly complete the work of succession and inheritance involves many non-organizational management dimensions, including the attitudes and views of the founders and their successors of different generations, resource distribution and transfer to family members, possible emotions and conflicts of interest, and the joint governance and balance of power between a successor and older employees and professional managers. This goes beyond what can be explained by successor training plans that focus on professional managers and, as a result, has elicited a great deal of curiosity and discussion from scholars. For instance, Benson's (1984) discussion of family business succession has become an important reference, and many other Western scholars have analyzed the topic of succession in family businesses (Birley, 1986; Donckel & Frohlich, 1991; Handler, 1994).

While contemporary studies of corporate operations tend to stress "manager capitalism" with a separation of management rights and ownership rights, in the Chinese world, family businesses are still the mainstream among corporations (Lee, 2007; Wang & Wen, 2011). According to statistics compiled by Tsai (2013), more than 70% of Taiwanese corporations are family businesses, which on average have been established for around 30 years, and the average age of business owners is 59.6 years; meaning that the time for succession and corporate transformation is imminent. Current Taiwanese studies on the issue of business succession also tend to focus on family businesses (Wu & Lien, 2012).

Furthermore, 34% of Taiwanese family businesses have already experienced the first instance of succession. Many corporations are preparing to enter the third- or even fourth-generation succession stage, and they will face different succession procedures and difficulties. Therefore, it is necessary to focus on the differences in succession models at different succession stages, for this will help us better understand the features and forms of Taiwanese business succession. There has already been a certain level of research in the West in this regard, and this topic has become increasingly popular in recent years (Behn et al., 2006; Chua et al., 1999; 2003; Donckels & Frohlich, 1991; Memili et al., 2011; Zahra et al., 2004). Therefore, this study will include both family businesses and non-family businesses, in the hope that a comparison between the two can help us establish an overall understanding of business succession models. As a result, we may be able to better understand organizational changes in the transition to systematic governance by Taiwanese corporations, particularly in terms of talent training, and, in turn, develop a localized theory related to Taiwanese business succession.

In short, we attempt to answer the following questions in this study: (1) How do corporations choose successors? What did the successors do to prepare for their positions? (2) Which support networks and resources will help corporate successors ensure a smooth transition? (3) Have there been any changes and what role are women playing in regard to positions of power in business succession? (4) What are the relationships among successors' characteristics, innovation, and firm performance? (5) For the issues mentioned above, are there any similarities and differences between Taiwanese and Japanese firms?

To clarify the above issues is both important and meaningful. In so doing, we will achieve a better understanding of successors' characteristics, preparation, the succession process, a firm's innovation, and performance. In the following sections of this paper, I first introduce the theoretical background and provide a literature review. I then describe the data and empirically estimate the effects of key variables on business succession. Given these efforts, I believe that this study will contribute to the accumulation of academic knowledge and policy development in this field.

2. Theoretical Background and Literature Review

2.1 Business Succession in Taiwan

Compared to the longstanding investigation in the Western academic world into business succession and inheritance (Beckhard & Dyer, 1983; Behn et al., 2006; Benson, 1984; Birley, 1986; Dalton & Kesner, 1983; Handler, 1994; Herrmann & Datta, 2002; Wiersema, 1992), Taiwanese research work that has focused on the issue of business succession has been limited. Over the last 5 years, only 6 journal articles, one doctoral dissertation, and 43 master's theses have been related to business succession, and most of these have been in the field of management. Apparently, in the field of business succession and inheritance, there is still much room for sociological studies.

After reviewing existing studies on business succession (Chung & Lin, 2009; Deng & Wei, 2010; Hsu, 2011; Liu & Lu, 2011; Wu & Lien, 2012), we find that most studies have focused on family businesses. According to the survey report of listed companies by the CCIS (2013), 74% of listed companies in Taiwan are family businesses. More importantly, over 37% of family businesses have been established for more than 30 years, and the business owners are on average 59.6 years old. In fact, they are entering the crucial business succession stage and the

manufacturing industry that is facing the biggest challenge. However, in terms of the survey results, 58% of Taiwanese family businesses have still not made arrangements for succession, with the succession problems being the most severe in the information and technology industry. Since the value of family businesses in Taiwan comprises 64% of the total value in Taiwan, if business succession cannot proceed smoothly, it will have a great effect on the growth and development of the Taiwanese economy.

Previous research related to business succession basically focused on two axes. The first axis involves the exploration of factors affecting the succession process of family businesses (Chung & Lin, 2009; Liu & Lu, 2011; Yu et. al, 2009), including differences in succession views between generations, the transfer of implicit knowledge and interpersonal resources, and relationships between successors, their families, and older employees. The second axis consists of the relationships among succession, corporate reform, and innovation (Chen, 2001; Wu & Lien, 2012; Yeh & Tsao, 1996), including the effect of business successor's characteristics, corporate innovation and operational performance, and succession and reform in corporate operational strategies.

Within the existing literature, researchers generally undertake research on single or several cases to organize and depict the process of family business succession in Taiwan, and attempt to use the perspective of organizational reform to explain the continuation of and changes in family businesses in the inheritance process, including family values and corporate culture, relationships, and resource networks (Guan et al., 2012; Lee, 2011). However, due to the research scale and selection of individual cases, such studies are generally focused on the discussion of business succession from the founders to their second generations, and on individual succession model research on family group corporations or SMEs. As these studies contain less discussion on changes in succession processes and models for corporations of different scales and generations, there is a lack of a systematic summary and comparative analysis.

Yu et al. (2009) have thus pointed out that corporate successors of different generations differ in terms of succession processes and values. As for the career choices of successors, some successors have placed emphasis on the effects of external environmental factors, while others have laid emphasis on family decisions. For views regarding family businesses, some successors have appreciated the hard work of their parents' generation, while others look to the repayment to society. For views regarding the next generation, some successors have focused on their responsibility for the family business, while other successors have made the choice to have a happy and balanced life.

From these case studies of succession and inheritance in corporations of different scales, we have also learned that such firms have significantly different planning and arrangements for succession (Lee, 2007). Most business owners have succession plans, plan to pass their businesses on to their children, and rarely consider professional managers as successors. Succession planning by current business owners focuses on the transmission of experience and the continuation of interpersonal relationships. Generally speaking, successors of small- and medium-sized family businesses generally obtain corporate knowledge and techniques externally. However, since the founders generally used the trial and error process to obtain corporate operational knowledge and technology, they use their own experiences as the basis of judgment, resulting in considerable difficulty in the inheritance of knowledge and technology (Hsu, 2011).

In terms of the selection of successors, although group corporations still focus on kinship, in-law members of the family can also become candidates for succession (Chung & Lin, 2009). Successors of family group corporations have a broader knowledge base, as compared to successors of SMEs. Family group business successors have two ways in which to learn. The first is learning within family business groups, including direct instruction modes from their fathers, older employees, and elder siblings, as well as training within the company. The second is to acquire operational techniques and knowledge through working in foreign companies, or their own entrepreneurial activities, and by accumulating their own personal relationships. It is worth noting that, as the number of family members increases, including those who marry into group corporations, the selection and arrangement of successors becomes more difficult and complicated.

Without establishing a systematic succession mechanism, succession in family group corporations tends to fail, and results in fights over assets due to complex and inharmonious family relationships. As stated by Chung & Lin(2009), succession in different generations and on different corporate scales gives rise to different challenges and problems that must be resolved, including equity distribution, the selection of a successor, and the inheritance of the family entrepreneurial spirit, all of which require different succession plans.

Because of this, existing research work cannot give us a holistic and systematic understanding of business succession. Our study will therefore collect information on the conditions of corporate managers, and provide an overview of corporations, corporate inheritance plans, the career formation of successors, the psychological

preparation of successors, assistance received from the previous generation upon succession, support from family, support from the company's operational team, and local support.

2.2 The Role and Position of Women in Business Succession Process

Regarding the issue of business succession, few researchers have focused on gender. In fact, gender not only affects the differences in succession opportunities, but may also affect different acquisitions of family resources. Traditionally, enterprise founders have preferred to designate their sons, particularly eldest sons, as successors, unless all men who could have inherited had passed away, before women were chosen to serve as successors. This is related to the prevalent Chinese belief that a daughter will get married and become part of someone else's family (Kao, 1999). Koh (2013) also found differences in the gender ratios of business successors of different generations. In particular, among the second generation, there has been a great increase in the ratio of women as corporate leaders, and it has become closer to the ratio of men. However, after the third and fourth generations, the ratio of female leaders has decreased again. More studies are needed to understand the reasons for the change in the ratio of female corporate leaders.

According to a survey by the CCIS (2013), 14.06% of directors and supervisors of listed companies in Taiwan are women, even though the survey pointed out that the extent to which Taiwanese female directors are involved in decision-making is small. Chung & Lin's (2009) discussion raised the issue as to whether second generation succession competitors "have the same mother," and implicitly showed the real influence of women in the corporate succession process. Chung and Lin (2009) further pointed out that whether family members have the same mother or not will affect the succession resources that they can control. One case study indicated that, when the second generation is made up of children from the first wife, there are smaller differences in succession resources held by the children. By contrast, if they are children from the second wife, there are greater differences in the succession resources held by the children.

In family businesses, women may be limited by the traditional view that "daughters will end up in other people's families," and be excluded from successors. However, when women become members of other family businesses through marriage, particularly when they become the mother of a successor candidate, the powers and resources of succession may be affected. Evidently, we should engage in a more nuanced discussion of the roles played by women, as well as the changes in their power positions in the process of business succession.

Kao's (1999) long-term observations on the development of SMEs in Taiwan focused on how wives of business owners participated in their family businesses, and explored their roles in the context of the family economy. Kao (1999) found that, while many wives of business owners did not have official titles, they were the best partners of their husbands (as executive officiers of the companies), helping their husbands with their work, sometimes providing recommendations, and pointing out blind spots in operations. It is absolutely necessary to include the gender factor in our analyses on business succession.

2.3 The Framework of Research on Business Succession

Recent research on business mainly refers to succession planning as theoretical background as developed by western scholars (e.g., Barnes & Hershon, 1976; Behn et al., 2006; Birley, 1986; Chua et al., 2003; Herrmann & Datta, 2002; Zahra et al., 2004). However, Chen (2011) argued that Western business succession planning studies primarily focus on the axis of professional managers, and ignore the successor's characteristics, economic and social backgrounds, and the firm's culture.

For example, Ka (1993) studied the apparel industry of Wufenpu in Taipei, Taiwan, and found that the restructuring of interpersonal networks caused by splitting family assets or entrepreneurship by family members would result in corporations facing competition and conflicts over limited organizational resources. This perspective of social networks can help us understand resource transfers and possible limitations in the succession process by providing a more nuanced angle of observation. In addition, Cosh et al. (2012) provided a detailed discussion on whether family businesses can use internal and external knowledge sources to elevate corporate innovative performance, which can also serve as a theoretical reference for our study to understand how business owners and successors use different sources of knowledge to create beneficial succession conditions.

In this study, we plan to employ Chen's (2007) 5P's analytical framework in our investigation. Differing from the Western perspective of human resources management, Chen (2007) divided corporate succession into five dimensions, including the people involved, the project and planning of succession, the succession process, succession progress, and performance (shown in Figure 1).

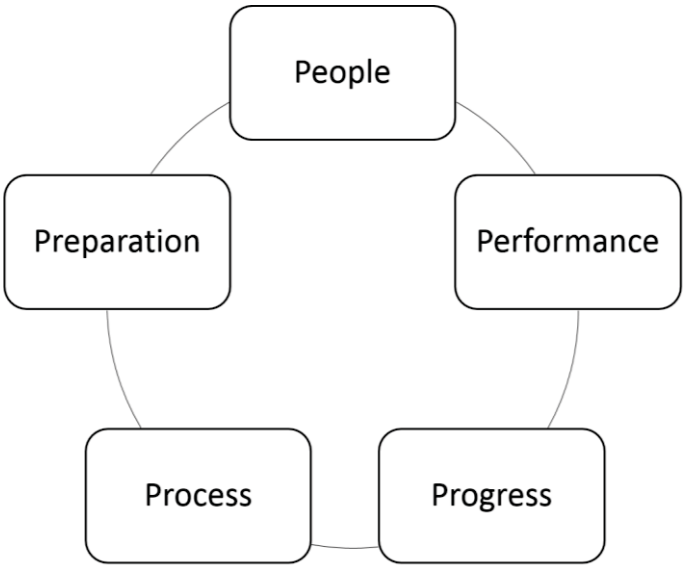

Figure 1. The 5 P's Analytical Framework (Chen, 2007)

This so-called "5P" analysis includes various issues involved in current business succession and inheritance research, which include succession attitudes of founders and successors, the selection and training of successor candidates, timing arrangements of succession, the problems faced in the handling of succession and inheritance, challenges faced by successors and resources needed, key roles that promote succession, and key factors in successful inheritance. Through this analytical framework, we will gain a more complete and comprehensive understanding of business succession.

3. Data, Research Methods, and the Process of Transnational Cooperation

Our data were collected in 2012-2013. The USA, UK, Australia, New Zealand, Japan, and Taiwan participated in this project. The workshop was held in Kyoto, at Doshisha University in December 2013. The key elements of the questionnaire design included: (1) general background of the company representative (including gender, age, education, number of generations, etc.); (2) basic data and operating status of the corporation (including the date of establishment, business type, family business or not, number of employees, business volume, core business philosophy, etc.); (3) business succession and inheritance plan (including inheritance plan, arrangements, and the requirements of the successor, etc.); (4) the career development of an enterprise's founders and previous successors (including entrepreneurial reasons, work experience, preparation for succession, etc.); (5) psychological preparation for succession (including reasons for succession, personal choice, and influence of the elders, etc.); (6) support of the former company president with respect to the succession (including how to form a new team, the support of family members and "veterans", assistance of local people or possible partners, etc.); and (7) status of enterprise reformation and innovation (including products, technology, distribution system, service, and delivery, etc.).

For the case of Taiwan, we obtained data on manufacturing enterprises from the Commerce Division of the Ministry of Economic Affairs through random sampling and generated 2,167 observations. We noted that 70.3% of Taiwanese manufacturing firms were owned and operated by families.

For the case of Japan, the Institute for Technology, Enterprise, and Competitiveness (ITEC) Center of Doshisha University was responsible for the survey of the local manufacturing industry in Kyoto. 903 observations were obtained on Japanese enterprise succession and inheritance. We noted that 76.1% of Japanese manufacturing enterprises were family-run.

4. Empirical Results

4.1 Generation, Establishment Size, and Descriptive Statistics

As shown in Table 1, 60.3% (21.6 + 13.1 + 25.6 = 60.3) of Kyoto enterprises have been in existence for three or more generations. In fact, there are many century-old enterprises in Kyoto. However, only about one third (32.6%) of enterprises in Taiwan have existed for two generations, and even a smaller number (2.8% = 2.6% + 0.2%) for three or more generations, making them quite different from Kyoto's enterprises.

Taiwanese and Japanese enterprises are mainly small- and medium-sized enterprises. Taiwanese firms are larger

than Japanese firms. Close to 20% (10.8 + 5.5 + 3.4 = 19.7) of Taiwanese firms have 50 or more workers, while only 13% of Japanese firms do. Some 28.6% of Japanese firms have only 5 or fewer workers while the corresponding figure for Taiwanese firms is only 13.5%.

Table 1. Distribution of Generations and Establishment Size

Generation	Taiwan	Japan
1st	1395 (64.5%)	132 (15.3%)
2nd	705 (32.6%)	208 (24.2%)
3rd	57 (2.6%)	186 (21.6%)
4th	1 (0.0%)	113 (13.1%)
5th or above	4 (0.2%)	220 (25.6%)

Number of employees	Taiwan	Japan
Less than 5	290 (13.5%)	271 (28.6%)
5-9	449 (21%)	168 (17.7%)
10-19	564 (26.3%)	153 (16.1%)
20-49	418 (19.5%)	186 (19.6%)
50-99	231 (10.8%)	57 (6%)
100-249	117 (5.5%)	57 (6%)
250 or above	72 (3.4%)	9 (0.9%)

From Table 2, we learn that Japanese descendants are more likely to take over the firms from their parents than are Taiwanese descendants (2.44 vs. 1.82). However, Taiwanese successors are more likely to start new businesses than Japanese successors (2.82 vs. 2.52). Only 4% (1 - 0.96 = 0.04) of Japanese successors are female, while 16% (1 - 0.84 = 0.16) of Taiwanese successors are female. Japanese successors are older (59.11 vs. 49.13), and with higher education (3.23 vs. 2.90, where 1 refers to junior high school or lower, 2 refers to senior high school, 3 refers to vocational school or college, 4 refers to university, and 5 refers to graduate school or higher). Furthermore, Japanese successors are more stable than Taiwanese successors (5.40 vs. 3.18).

Table 2. Descriptive Statistics of Key Variables

	Taiwan	Japan
Intention of Succession	1.82	2.44
Willingness to Start a New Business	2.82	2.52
Amount of Benefit	2.23	1.73
Age of Successor	49.13	59.11
Male	0.84	0.96
Generation	2.08	3.50
Distance b/w home and the firm	2.28	2.23
Education	2.90	3.23
Stability	3.18	5.40

4.2 Corporate Philosophy and the Preparation of Successors

Compared with Taiwanese enterprises, Japanese corporations attach greater significance to the family motto, business brand, and philosophy. During the last several decades, many Japanese enterprises, like Sony, Toshiba, Toyota Motor, etc. have been trustworthy big brands and the major choices of customers. Moreover, they have mastered the core technology while other manufacturers only cooperate in manufacturing. It can be seen from items produced by Taiwanese enterprises that they also pay close attention to philosophy and brand, but they can only reform other aspects since they have not mastered the core technology as the Japanese have. From another perspective, Japan is more conservative than Taiwan in enterprise thinking, as they will not introduce reforms or innovate without careful consideration in order to maintain their goodwill (brand name) and avoid shaking the mentality of consumers.

Table 3. Consideration of Corporate Philosophy, Goodwill, and other Items

Protected / Not Changed		
	Taiwan	Japan
Corporate philosophy (Family motto)	54.3%	72.6%
Goodwill (Trade name, Brand name)	45.7%	78.8%
Production Techniques	19.3%	34.5%
Sales System	19.5%	31.3%
Sales Area	17.6%	25.9%
Customers	11.1%	19.7%
Suppliers	18.2%	24.4%
Product and Service Content	19.5%	28.4%
Business Content	32.7%	40.5%

Taiwanese entrepreneurs are more flexible in their thinking, and females are more innovative. One example is Cher Wang who created the globally-known HTC mobile phone brand. Japanese entrepreneurs exhibit near consistency in Table 4 as both male and female successors have tried very hard to maintain the corporate philosophy and goodwill, while female successors are even more conservative than male successors. This might be the result of Japan's social context, where there are few female entrepreneurs and their task is to maintain the family motto and brand name instead of making too much change once they become the leader of the corporation. In the formation process of Japanese society, females are prone to obey their elders, which may influence their performance in enterprise thinking as well.

Table 4. Corporate Philosophy, Preparation before Succession, and Gender

	Taiwan		Japan	
	Male	Female	Male	Female
Protected / Not Changed Corporate Philosophy	55.4%	44.5%	72.3%	79.1%
Protected / Not Changed Goodwill	47.4%	32.4%	78.6%	88.6%
Communication with the employees in general	65.6%	57.9%	35.1%	39.1%
Communication with the executives	64.9%	50.0%	15.2%	19.6%

Successors in Taiwan will make preparations in every respect and establish close contact with enterprise executives and front-line employees so as to obtain internal support after succession. They will also work on the front-line to maintain contact with consumers and gain more experience so as to form better and more rational operating strategies. With respect to the gender of the successor, there is a great difference between male and female successors in Taiwan, with female successors having less contact with employees and managers.

In Japan, a successor's priority training is also to work on the front-line and accumulate work experience, but there is little training in communication with executives and managers. We presume the reason might be that Japanese enterprises have basically been established for a very long time with great credibility and powerful brands. The managers are used to working together with the previous generation and are basically old friends or relatives of the successor. Therefore, the successors may follow the implementation and operating strategy of the previous generation since their task is to maintain the enterprise and pass it on to the next generation. On the whole, Taiwanese enterprises and Japanese enterprises both pay close attention to the successors' work experience, and the best way to cultivate them and enhance their capability is by having them work on the front-line.

4.3 Innovation for Different Items and Corporate Performance

We have also studied the influence of product, method, distribution system, service, and delivery innovations on corporate performance. For those Taiwanese firms that have done something in regard to product innovation, 6.4% have claimed that their performance is good, compared to other companies within the same industry; 79.4% that it is somewhat good; 13.3% somewhat bad; and 0.9% bad. By contrast, for Japanese firms the corresponding figures are 14.3%, 59.3%, 24.6%, and 2.9%, respectively. From these five aspects of innovation, the relationships between innovation items and performance exhibit very similar patterns for Taiwanese firms and Japanese firms.

Table 5. Innovation and Performance

Innovation		Performance, compared to other companies			
		Good	Somewhat Good	Somewhat Bad	Bad
Manufactured product	Taiwan	6.4%	79.4%	13.3%	0.9%
	Japan	14.3%	58.3%	24.6%	2.9%
Production method	Taiwan	6.3%	79.2%	13.0%	1.4%
	Japan	15.1%	59.5%	22.7%	2.6%
Supply, storage, and distribution system	Taiwan	5.5%	79.1%	13.9%	1.4%
	Japan	15.1%	56.8%	24.0%	4.1%
Service	Taiwan	6.4%	78.7%	14.0%	0.9%
	Japan	16.4%	55.7%	23.8%	4.0%
Delivery	Taiwan	6.0%	78.8%	13.8%	1.4%
	Japan	13.2%	56.1%	25.5%	5.2%

We can see that Taiwanese enterprises are more confident (or self-complacent) in themselves, as more than 80% of enterprises say they have good or somewhat good performance, while the percentage in Japan is around 70%. Furthermore, only 15% of Taiwanese firms think their performance is relatively somewhat bad or bad, compared to other companies, while more than 25% of Japanese firms think their performance is somewhat bad or bad.

4.4 Regression of Successors' Intention to Succeed and Start New Business

Table 6 demonstrates the effects of different variables on the descendants' intention to succeed and to start new business.

Table 6. Intention to Succeed and to Start New Business

	Intention to Succeed to the Business		Willingness to Start New Business	
	Taiwan	Japan	Taiwan	Japan
Male (Reference = female)	-0.031	0.546*	-0.197*	0.167
	(0.079)	(0.148)	(0.073)	(0.154)
Generation	-0.008	-0.046	-0.188	-0.096*
	(0.061)	(0.062)	(0.111)	(0.028)
Family-run business	-0.230	0.290*	0.095	-0.105
	(0.134)	(0.090)	(0.124)	(0.097)
Distance b/w home and the firm	0.407*	0.167*	-0.059	-0.057
	(0.041)	(0.036)	(0.040)	(0.039)
Firm size	-0.090*	0.078	-0.102*	0.044
	(0.043)	(0.047)	(0.040)	(0.051)
Senior high school (Reference = Junior high school or lower)	-0.839*	-0.092	0.295	0.151
	(0.170)	(0.168)	(0.166)	(0.188)
Vocational school or College	-1.323*	0.285	0.381*	-0.022
	(0.162)	(0.301)	(0.159)	(0.212)
University	-1.041*	0.072	0.278	0.153
	(0.148)	(0.075)	(0.147)	(0.080)
Graduate school or higher	-0.861*	-0.084	0.003	0.287
	(0.157)	(0.185)	(0.155)	(0.199)
Constant	2.258*	1.749*	3.369*	2.904*
R^2	0.22	0.091	0.059	0.037

Note. * indicates $p < 0.05$; standard errors are in parentheses.

In Japan, males have a stronger intention to be successors than females, while this gender effect is not statistically significant in regard to their willingness to start new business. On the contrary, the effect of gender is not significant for Taiwanese successors, neither is the intention to take over the firm, nor to start new business.

Based on similar results in Taiwan and Japan, the distance between household location and enterprise location has a positive influence on a successor's intention to take over the enterprise, just as the Japanese saying states that "the child's impression of his father is always his back during working." Whether or not the enterprise's location is in a successor's birth/growing-up place will influence the successor's willingness to take over. If the enterprise's location is in one's birth/growing-up place, then a successor will be more likely to take over the firm.

Male entrepreneurs in Taiwan have less of an intention to create a new business, which is consistent with what is reflected in Table 4. They are more willing to maintain the corporate philosophy than female entrepreneurs in Taiwan. In other words, male Taiwanese entrepreneurs are more conservative and less willing to create new businesses, just like Japanese enterprise successors.

With respect to establishment size, the larger the Taiwanese establishment is, the less strong is the intention for the descendants to succeed, and the less likely it is that a new business will be created. By contrast, the effect of firm size on the descendants' intention to take over the firm and on the successors' willingness to create a new business are not statistically significant for Japanese firms.

With respect to educational background, many Taiwanese entrepreneurs are senior high school or vocational school graduates and are more prone to starting new businesses. In Japan, the successor's educational background does not influence her/his willingness to create a new business.

4.5 Regression of Business Succession Process

Differing from our expectations, after controlling for other variables, business generation, the successor's age, whether she/he became the mediator, and firm size do not have statistically significant effects on the succession process in either Taiwanese or Japanese firms. From Table 7, we learn that getting support from the predecessor and her/his executives are the key factors to ensure that the handover process is relatively smooth.

Table 7. Smooth Handover during the Succession Process

	Taiwan	Japan
Generation	- 0.420	- 0.055
	(0.242)	(0.036)
Male	0.188	0.365
	(0.182)	(0.202)
Age	- 0.014	- 0.001
	(0.010)	(0.005)
Became mediators	0.114	0.180
	(0.214)	(0.111)
Had worked at other companies	- 0.119	- 0.067
	(0.089)	(0.078)
Had already worked in the company	9.449E-5	-0.027
	(0.002)	(0.042)
Support from last generation	0.237 *	0.617 *
	(0.085)	(0.036)
Appreciation from the veterans	0.284 *	0.199 *
	(0.101)	(0.038)
Firm Size	0.057	-0.120
	(0.090)	(0.062)
Constant	2.253	0.757
R^2	0.082	0.418

Note. * indicates $p < 0.05$; standard errors are in parentheses.

4.6 Regression of Performance after Succession

First of all, after controlling for other variables, the number of generations has a significant negative impact on performance after succession in both Taiwan and Japan. It indicates that the more generations there are since the enterprise was formed, the more challenges and interventions the successors may encounter.

Gender does not exhibit a significant effect on performance in either Taiwanese or Japanese firms. The effect of age on performance is negative for both Taiwanese and Japanese firms. To be specific, this effect is statistically significant for Taiwanese firms, but not significant for Japanese firms. It indicates that, for Taiwanese firms, the older the successor is, the poorer the firm's performance is.

Management innovation has a significantly positive impact on enterprise performance in both Taiwan and Japan. The greater the extent of management innovation, the better the performance of the firm after the succession takes place.

Table 8. Performance after Succession

	Taiwan	Japan
Generation	- 0.128 *	- 0.041 *
	(0.032)	(0.019)
Male	- 0.002	- 0.236
	(0.044)	(0.126)
Age	- 0.008 *	- 0.004
	(0.002)	(0.002)
Innovation on Management	0.084 *	0.119 *
	(0.023)	(0.035)
Innovation on Openness	0.083 *	- 0.045
	(0.011)	(0.028)
Innovation on Production	0.039	0.255 *
	(0.056)	(0.065)
Innovation on Processing	0.201 *	- 0.058
	(0.063)	(0.069)
Stability	0.014	- 0.037
	(0.015)	(0.030)
Firm Size	0.128 *	0.194 *
	(0.021)	(0.041)
Constant	2.095 *	2.043 *
R^2	0.135	0.139

Note. * indicates $p < 0.05$; standard errors are in parentheses.

In Taiwan, open innovation and procedural innovation also have positive impacts on performance. In fact, these factors are to a certain degree likely to be interrelated with the successor's generation and age. A firm's long

history and the successor's age may limit the degree of openness and procedural innovation development of the enterprise because older firms and older successors may have less momentum to make significant changes.

With respect to innovation and performance, on the one hand, innovation in relation to openness and service improve the performance of Taiwanese firms. On the other hand, product innovation has a positive impact on the performance after succession for Japanese firms. As is widely known, Japanese manufacturers are able to master core product technology and to devote themselves to product innovation. Therefore, when the successor takes over, the overall performance of the enterprise will be better if more is invested in product innovation.

5. Discussion and Conclusion

5.1 Findings and Issues

Although recent research work has revisited business succession, many important issues have not been investigated systematically. We believe that, by bringing the successor's characteristics and preparation back in, the relationships among the successor's efforts, innovation, and firm's performance can be analyzed more thoroughly.

According to our quantitative data analyses, some important findings are summarized as follows. First, there are some differences in corporate culture and business philosophy between Taiwanese and Japanese enterprises. Taiwanese firms tend to engage in innovation and reformation, while Japanese firms attach great significance to product innovation. These facts are also reflected in the different training of successors. Taiwanese enterprises believe that innovation and reformation can inject new vitality into the enterprise and open up new markets, whereas Japanese enterprises think that product technology improvements and new products can maintain enterprise brands and win loyal consumers.

Second, the influence of female successors has been increasing in the succession process. The number of female successors has increased in both Taiwan and Japan despite the fact that male successors still play a dominant role under the influence of a patriarchal society. We can see from the data that enterprises with female successors in Taiwan are more open and innovative than those with male successors.

Third, successors in Taiwan make preparations in various respects. According to enterprise thinking in Taiwan, it is very helpful for successors to get access to all things. Some enterprises want the successors to start from the front-line to win the loyalty of employees and managers, to keep in touch with front-line employees, to learn the enterprise's operating mode, and to think about a future development strategy. In Japan, a successor's priority training is also to work on the front-line and accumulate work experience. However, there is little training in communication with managers and broadening the scope of the enterprise's operations. Japanese enterprises pay close attention to credibility and brand, and the main task of their successors is to sustain the enterprise and pass it on to the next generation. The "veterans" of enterprises are basically old friends and relatives of the successor, and they do not have much communication.

Fourth, the environment where the successor grew up also plays an important role. If the enterprise is located where the successor lives, then her/his willingness to take over will increase, since he/she may have witnessed the hard work of the parents, learned about the enterprise's operations, and even received training from the enterprise. Such successors may not be interested in the enterprise business, but they are still willing to take over the enterprise established by their parents to maintain and develop the family business.

Last, but not least, the support of the previous generation and the "veterans" will make the succession process relatively smooth. Many well-known disputes have occurred in the enterprise succession process in Japan and Taiwan, and the previous generation and "veterans" play an important role in it, since the succession process will not be easy without their support.

5.2 Suggestions for Future Research

Our study contributes to a better understanding of a successor's characteristics, preparation, succession process, the firm's innovation, and firm performance. Our framework draws upon the 5P's analysis to enrich previous research on business succession. In addition, we enhance the rigor of our research findings by using data from Taiwan and Japan. Nonetheless, we reiterate that this study has focused on only limited issues related to business succession. There remains much scope for further investigation in future studies.

This study serves as a starting point for investigating business succession of manufacturing firms of Taiwan and Japan, and readers should bear in mind the following limitations. First, this study only investigated business succession of manufacturing firms. Similar studies on firms from other industries are needed to confirm the results found in this study. Second, future research might extend our analysis to other countries since we have

only accessed data from Taiwan and Japan so far. Third, future research might build upon our analysis to consider better data, alternative measures, and more comprehensive models of succession processes. By continuing to investigate these topics, we can contribute to the accumulation of academic knowledge and policy development in this field more objectively and effectively.

References

Barnes, L. B., & Hershon, S. A. (1976). Transferring power in the family business. *Harvard Business Reviews*, *54*(4), 105-114.

Beckhard, R., & Dyer, W. G. (1983). Managing continuity in the family-owned business. *Organizational Dynamics*, *12*, 4-12. https://doi.org/10.1016/0090-2616(83)90022-0

Behn, B. K., Dawley, D. D., Riley, R., & Yang, Y. (2006). Deaths of CEOs: Are delays in naming successors and insider/outsider succession associated with subsequent firm performance? *Journal of Managerial Issues*, *18*, 32-46.

Benson, B. (1984). The enigma of the family-owned business. *Perspective*, *10*(1), 3-6.

Birley, S. (1986). Succession in the family firm: the inheritor's view. *Journal of small business management*, *32*(3), 29-39.

CCIS (2013). 2012 Business Groups in Taiwan. Taipei, Taiwan: China Credit Information Service Ltd.

Chen, C. H. (2001). *Bandi and Laoban: The Development of Elementary Organization Capability in Taiwan's enterprise*. Taipei, Taiwan: Linking.

Chen, K. C. (2011). The Training Pattern for Family Enterprise Successors in Taiwan. In J. H. Wang & C. T. Wen (Eds.), *Does family business still matter?* (pp. 153-187). Taipei, Taiwan: Chuliu Publisher.

Chen, M. Z. (2007). *Who is the next one?* Taipei, Taiwan: Jin Da Ding Press.

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the family business by behavior. *Entrepreneurship: Theory & Practice*, *23*(4), 19-39. https://doi.org/10.1177/104225879902300402

Chua, J. H., Chrisman, J. J., & Sharma, P. (2003). Succession and non-succession concerns of family firms and agency relationship with non-family managers. *Family Business Review*, *16*(2), 89-107. https://doi.org/10.1111/j.1741-6248.2003.00089.x

Chung, H. M., & Lin, C. H. (2009). The Relationship between Succession Resources and Role Embeddedness in Family Business Group: A Network Perspective. *Organization and Management*, *2*(2), 155-195.

Cosh, A., Fu, X., & Hughes, A. (2012). Organizational structure and innovation performance in different environments. *Small Business Economics*, *39*(2), 301-317. https://doi.org/10.1007/s11187-010-9304-5

Dalton, D. R., & Kesner, I. F. (1983). Inside/outside succession and organizational Size: The pragmatics of executive replacement. *Academy of Management Journal*, *26*, 736-742.

Deng, J. B., & Wei, M. J. (2010). Family Firms and Generational Change: Taiwanese Manufacturing Businesses in the Pearl River Delta. *Mainland China Studies*, *53*(3), 25-51.

Donckels, R., & Frohlich, E. (1991). Are family businesses really different? European experiences from stratus. *Family Business Review*, *4*(2), 149-160. https://doi.org/10.1111/j.1741-6248.1991.00149.x

Guan, Y. R., Hsung, R. M., & Lin, Y. J. (2012). Innovation Mechanisms in Taiwan IC Industry: The Case of the Patent-Based Inventor Networks in 2001 and 2005. *Research Center for Humanities and Social Sciences*, *24*(1), 51-82.

Handler, W. C. (1994). Succession in family business: A review of the research. *Family Business Review*, *7*(2), 133-157. https://doi.org/10.1111/j.1741-6248.1994.00133.x

Herrmann, P., & Datta, D. K. (2002). CEO successor characteristics and the choice of foreign market entry mode: An empirical study. *Journal of International Business Studies*, *33*, 551-569. https://doi.org/10.1057/palgrave.jibs.8491031

Hsu, Y. W. (2011). Succession and Intergenerational Relations of Century-Old Family Business in Taiwan. *Journal of Adult and Lifelong Education*, *16*, 83-112.

Ka, C. M. (1993). *Market, social networks, and the production organization of small-scale industry in Taiwan: the garment industries in Wufenpu*. Taipei, Taiwan: Institute of Ethnology, Academia Sinica.

Kao, C. S. (1999). *Economic Action and Social Signification of 'Entrepreneurial Bosses' Wives': Taiwanese*

Small-Medium Business. Taipei, Taiwan: Linking.

Koh, A. (2013). Current situation of Asian business families. In the 2nd Chinese Family Businesses Forum. Forum conducted at the GIS NTU Convention Center.

Lee, Z. R. (2007). Between the State Power and Chinese Familism: Corporate Control and Intercorporate Networks in Taiwan Revisited. *Taiwanese Journal of Sociology*, *13*, 173-242.

Lee, Z. R. (2011). Determinants of Kinship Networks in Taiwanese Business Groups. *Taiwanese Journal of Sociology*, *46*, 115-166.

Liu, D. C., & Lu, S. H. (2011). The Succession Problems of Family-owned Business：A Case Study of a Lead-Acid Battery Company in Central Taiwan. *Journal for SME Development*, *22*, 1-24.

Memili, E., Chrisman, J. J., & Chua, J. H. (2011). Transaction costs and outsourcing decisions in small- and medium-sized family firms. *Family Business Review*, *24*(1), 47-61. https://doi.org/10.1177/0894486510396706

Tsai, H. C. (2013). Chinese Family Enterprise 2012 Report. *Forum of Taiwan Institute of Directors*, *1*, 19-25.

Wang, J. H. & Wen, C. T. (2011). *Does family business still matter?* Taipei, Taiwan: Chuliu Publisher.

Wiersema, M. F. (1992). Strategic consequences of executive succession within diversified firms. *Journal of Management Studies*, *29*, 73-94. https://doi.org/10.1111/j.1467-6486.1992.tb00653.x

Wu, C. M., & Lien, Y. H. (2012). Research on the Process of Organizational Change, Conflict and Transformation Led by Family Business Succession. *Journal of Management*, *29*(3), 279-305.

Yeh, K. S., & Tsao, L. C. (1996). A Network Analysis of Ownership Succession in Family Owned Business. *Journal of Management*, *13*(2), 197-225.

Yu, P. H., & Lin, C. Y. Y., & Chang, D. H. F. (2009). Succeed or Change: The Succession Process in Taiwanese Enterprises: A Qualitative Research. *Organization and Management*, *2*(2), 109-153.

Zahra, S. A., Hayton, J. C., & Salvato, C. (2004). Entrepreneurship in family vs. non-family firms: a resource-based analysis of the effect of organizational culture. *Entrepreneurship: Theory & Practice*, *28*(4), 363-38. https://doi.org/10.1111/j.1540-6520.2004.00051.x

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Testing a Multi-factor Capital Asset Pricing Model in the Jordanian Stock Market

Mohammad K. Elshqirat[1], Mohammad M. Sharifzadeh[1]

[1]School of Management, Walden University, Minnesota, U.S.A

Correspondence: Mohammad K. Elshqirat, Amman, Jordan. E-mail: mohammad.elshqirat@waldenu.edu

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Abstract

A valid and accurate capital asset pricing model (CAPM) may help investors and mutual funds managers in determining expected returns which may lead to increase their profits and community resources. The problem is that the traditional CAPM does not accurately predict the expected rate of return. A more accurate model is needed to help investors in determining the intrinsic price of the financial asset they want to sell or buy. The purpose of this study was to examine the validity of the single-factor CAPM and then develop and test a multifactor CAPM in the Jordanian stock market. The study was informed by the modern portfolio theory and specifically by the single-factor CAPM developed by Sharpe, Lintner, and Mossin. The research questions for the study examined the factors that may explain the variation in the expected rate of return on stocks in the Jordanian stock market and the relationship between the expected rate of return and factors of market return, company size, financial leverage, and operating leverage. A causal-comparative quantitative research design was employed to achieve the purpose of the study by testing the listed companies on the Amman stock exchange (ASE) for the period from 2000 to 2015. Data were collected from the ASE database and analyzed using the multiple regression model and *t* test. The results revealed that market return, company size, and financial leverage are not predictors of the expected rate of return while operating leverage is a predictor

Keywords: capital asset pricing model, Amman stock exchange, financial leverage, operating leverage, size, multi-factor capital asset pricing model

1. Introduction

The stock returns are reduced when the investor buys a stock at more than its intrinsic price and when he or she sells the stock at less than that price, the problem is how stocks are or should be priced (Mossin, 1966). One model that can be used for pricing the stocks is the capital asset pricing model (CAPM) which was introduced by Sharpe (1964), Lintner (1965), and Mossin (1966). This single-factor model was tested by many researchers (Alqisie & Alqurran, 2016; Dajčman, Festić, & Kavkler 2013; Wu, Imran, Feng, Zhang, & Abbas, 2017) who concluded that the model is not able to accurately determine the expected rate of return on the financial asset. This inability of the single-factor CAPM represents the main problem in this study. This problem confronts many companies that use the model in their investments and capital budgeting decisions. The problem is important because most companies (85%) use the single-factor CAPM to estimate the cost of equity (Chawla, 2014) and because the trading value in the stock market of Jordan represents 40% of the gross savings of the country (Amman stock exchange, 2016; World Bank, 2016). Based on this, it may be very important to develop a model that can determine the expected rate of return more accurately than the single-factor model.

To increase its ability in predicting the expected rate of return, the single-factor model was extended by adding variables other than the market return to formulate new models including the model of Black, Jensen, and Scholes (1972), the zero-beta model (Black, 1972), Fama-French three-factor model (Fama & French, 1992), Carhart four-factor model (Carhart, 1997), and Liquidity-Augmented Fama-French CAPM (Chan & Faff, 2005). All these models were formulated by adding variables that are not derived from the theory of corporate finance. In this study, I developed and tested a CAPM model that contains variables derived from corporate finance theory following the model developed by Sharifzadeh (2005) who developed a model that consists of variables of market return, size, financial leverage, operating leverage, and implied volatility. The last variable is related to options market which does not exist in Jordan and thus, it was excluded from the proposed model.

To test the single-factor and the proposed model, five hypotheses were developed. The first hypotheses was

about whether the market return does explain the greatest-variation in the expected rate of return on a stock while the hypotheses from two to four were about testing the relationship between the expected rate of return on a stock and variables of size, financial leverage, and operating leverage. The fifth hypothesis was developed to test the fitness of the extended model that contains all variables proved to be related to the expected rate of return based on the results of hypothesis two to four. To test these hypotheses, I employed a quantitative causal comparative design because the study is about the causes that results in the variation of the expected rate of return on the stock. The qualitative research, and consequently the mixed research method, does not fit here because the study is not about exploring, understanding, or interpreting of a phenomenon or a case (Yilmaz, 2013).

2. Literature Review

2.1 Capital Asset Pricing Model

The capital asset pricing model (CAPM) was introduced by Mossin (1966), Lintner (1965), and Sharpe (1964). As defined in this model, the expected rate of return E (R_i) is a function of: the risk-free rate of return (R_f), the expected return of the market [E (R_M)], and the sensitivity of the expected excess asset return to the expected excess market return (β_{iM}). This relationship can be expressed using the following equation:

$$E(R_i) = R_f + \beta_{iM}[E(R_M) - R_f] \quad (1)$$

Where E (R_i) is the expected rate of return on the stock i, R_f is the rate of return on the risk-free asset, and E (R_M) is the expected rate of return on the market. This model is called the single-factor model (Black, 1972) because it has only one independent variable which is the market excess return [E (R_M) – R_f] and in some studies it may be referred to as the traditional CAPM.

The validity of this model was tested by many researchers in many countries (Chaudhary, 2017; El-Mousallamy & El-Masry, 2016; Nyangara, Nyangara, Ndlovu, & Tyavambiza, 2016; Obrimah, Alabi, & Ugo-Harry, 2015; Saji, 2014; Sattar, 2017; Wu et al., 2017). Some researchers supported the validity of the model (Bajpai & Sharma, 2015; Bjuggren & Eklund, 2015; Lee, Cheng, & Chong, 2016; Novak, 2015) while others concluded that the model is invalid in estimating the expected rate of return on the financial asset (Alqisie & Alqurran, 2016; Alrgaibat, 2015; Chaudhary, 2017; Wu et al., 2017). In Jordan, however, many researchers concluded that the single-factor model is invalid (Blitz, Pang, & Van Vliet, 2013; Alqisie & Alqurran, 2016; Alrgaibat, 2015).

2.2 CAPM Extensions

Earliest studies that added more variables to the single-factor model include a study by Black et al. (1972). They concluded that the excess expected return on an asset is determined by another factor than its beta (Black, Jensen, & Scholes, 1972). They presented a two-factor model as follows:

$$E(R_i) = \beta_i[E(R_M)] + (1 - \beta_i)[E(R_z)] \quad (2)$$

Where, E (Ri): the asset expected return, βi is the asset's beta, E (R_M) is the market expected return, and E (Rz) is the expected return of the other factor. The model implies that the expected return of the asset is derived from the market expected return combined with βi and another factor's expected return combined with 1- β_i.

2.2.1 Zero-Beta CAPM

Zero-Beta model was built by relaxing the CAPM assumption concerning the existence of riskless asset (risk-free asset) as discussed by Beaulieu, Dufour, and Khalaf (2013). Black (1972), claimed that for each portfolio in the efficient frontier there is a counterpart portfolio located in the inefficient part of the frontier. The counterpart portfolio is uncorrelated with the efficient portfolio and based on this, the name Zero-Beta portfolio is given to the counterpart portfolio; the equation for this model is as follows (Sharifzadeh, 2005):

$$E(R_i) = E(R_{Z(M)}) + \beta_{iM}[E(R_M) - E(R_{Z(M)}] \quad (3)$$

Where E (R_i) is the expected return on the stock i, E (R_M) is the expected return on the market, β_{iM} is the same beta of the traditional CAPM, and E($R_{Z(M)}$) is the expected return of the counterpart portfolio.

2.2.2 Fama-French Three-Factor Model

Two variables were selected by Fama and French (1992) to be added to the single-factor CAPM: size (the outstanding shares multiplied by the share's market price) and equity book value to its market value. According to Fama and French, the average rate of return is inversely related to the size and directly related to the ratio of book to market. The equation for this new version of the CAPM is as follows (Aldaarmy, Abbod, & Salameh, 2015):

$$R_{it} - R_{ft} = a_j + \beta_i(R_{mt} - R_{ft}) + \beta_i^S(SLL_t) + \beta_i^{bm}(HBMLBM_t) + e_i \quad (4)$$

Where the βi's are the sensitivity of the expected rate of return of stock i to each risk factor: market return (R_{mt} - R_{ft}), size (SLL_t), and book to market equity ($HBMLBM_t$).

2.2.3 Carhart Four-Factor Model

Carhart (1997) added one factor to Fama and French three-factor CAPM. The added variable was the one-year momentum; the effect of the price momentum on the return is that stocks with high return in the last period of time tend to have higher return than average expected in the next period. The model can be depicted mathematically as follows (Garyn-Tal & Lauterbach, 2015):

$$R_{it} - R_{ft} = a_j + \beta_i(R_{mt} - R_{ft}) + \beta_i^S (SLL_t) + \beta_i^{bm} (HBMLBM_t) + \beta_i^{om} (OYPM_t) + e_i \quad (5)$$

Where the β_i's are the sensitivity of the expected rate of return of stock i to each risk factor: market return (R_{mt} - R_{ft}), size (SLL_t), book to market equity ($HBMLBM_t$), and one-year price momentum ($OYPM_t$).

2.2.4 Liquidity-Augmented Fama-French CAPM

Following the methodology of Fama and French in adding more variables to the single-factor capital asset pricing model, Chan and Faff (2005), added the factor of illiquidity to Fama-French model to introduce the liquidity-augmented Fama-French model. The equation for this new CAPM is as follows (Chan & Faff, 2005):

$$R_{it} - R_{ft} = a_j + \beta_i (R_{mt} - R_{ft}) + \beta_i^S (SLL_t) + \beta_i^{bm} (HBMLBM_t) + \beta_i^{il} (Imv_t) + e_i \quad (6)$$

Where all variables are the same as in the Fama-French model and the liquidity factor is denoted (Imv_t).

2.3 Size, Financial Leverage, and Operating Leverage

One of the variables included in the Fama-French three-factor model was the size or the market equity for the company. Fama and French (1992) measured size by multiplying the total outstanding shares of the firm by the market price of the share. Most studies that tested the Fama-French model measured the size variable by the same method. Fama and French concluded that the stock returns were negatively related to the size of the company. The same conclusion was reached by Sharifzadeh (2005) but the size was measured by the market value of total assets and not the market value of the equity alone which is the same measure used in this study. Another variable considered by the investors as an indicator of the risk level of a stock is the financial leverage (Tan, Chua, & Salamanca, 2015). Because of its high financial risk, investors consider stocks with high financial leverage to be more risky while they consider stocks with low financial leverage as less risky (Sharifzadeh, 2005). The degree of operating leverage may affect the operating risk that companies bear. This risk is priced by investors and eventually translated into a higher stock return (Lee & Park, 2013). In this study, the model I tested was developed using the same methodology followed to develop the models discussed in the CAPM extensions by adding more variables to the single-factor CAPM. This proposed model can be depicted as follows:

$$R_{jt} - R_{ft} = aj + \beta_j^M(R_{mt} - R_{ft}) + \beta_j^S (SLL_t) + \beta_j^{FL} (HFLLF_t) + \beta_j^{OL} (HOLLO_t) + e_{jt} \quad (7)$$

Where the β_j's are the sensitivity of the expected rate of return of stock j to each risk factor of: market return (R_{tm} - R_{ft}), size (SLL_t), financial leverage ($HFLLF_t$), and operating leverage ($HOLLO_t$).

2.4 Hypotheses

To test the proposed CAPM model, I developed five hypotheses: the first one was to test the single-factor model, hypotheses two to four to test the relationship between each independent variable with the expected rate of return, and the last hypothesis was developed to test the model in Equation 7. The research hypotheses were as follows:

H1: Market rate of return does explain the greatest-variation in the expected rate of return on a stock.

H2: A company's size is predictor of rate of return of the stock of that company

H3: A company's financial leverage is predictor of rate of return of the stock of that company.

H4: A company's operating leverage is predictor of rate of return of the stock of that company.

H5: The company's expected rate of return is linearly dependent on the factors of: the market return, company's size, financial leverage, and operating leverage.

3. Method

3.1 Research Data

The population of this study included all public companies listed on Amman stock exchange(ASE), the only stock market in Jordan. The unit of analysis for this study was each company listed and continue to be listed on the ASE for the period from 2000-2015, the total number of these companies is 109. Banks were excluded from the study because they did not disclose fixed assets and long term debt as a separate line for the end of 1999.

After excluding banks, total number of companies included in the study is 90 companies. Data used in the study were the monthly closing prices for all companies included in the study for the period January- 2000 to December- 2015. In addition, data included information about total assets, total liabilities, and long term debt for each company during the period covered. Multiple-linear regression and *t*-test were used to analyze the collected data.

3.2 Research Design

This study is a quantitative, causal-comparative study to test the possible causes of the variation in the dependent variable. The dependent variable in the study is the expected rate of return on the stocks of the listed companies on the Jordanian stock market. The independent variables include the expected rate of return on the overall stock market, size of the stock, financial leverage, and operating leverage.

3.3 Variables Definitions

Company's size: is the average of the market value of the total assets of the company for the study period; it was estimated by finding the market value of the total assets of the company at the first year of the study period and at the last year of the period then divide the total by 2. The market value of the total assets was calculated by adding the market value of the outstanding shares to the liabilities of each company.

Financial leverage: is a measure for the degree of using debts by the company. Financial leverage is defined as the percentage of long term debt to the total assets of the company. The average of this leverage for the first and last year was used to measure this variable.

Market rate of return: is the rate of return achieved in the market during the holding period of one month; the ASE price index is used in this study to represent the market. This return was calculated at time t using the following equation (Alqisie & Alqurran, 2016):

$$R_{mt} = (I_t - I_{t-1}) * 100 / I_{t-1} \quad (8)$$

Where I_t is the ASE index closing price at time t and I_{t-1} is the index closing price at time t-1.

Operating leverage: this term represents the level of the company's fixed costs compared to its total costs. It was measured as the percentage of fixed assets to the total assets. The average of this leverage for the first and last year was used to measure this variable.

Realized rate of return: is the rate of return actually gained on the stock during the holding period; this return was calculated at time t using the following equation (Alqisie & Alqurran, 2016):

$$R_{jt} = [(P_{jt} - P_{jt-1})*100] / P_{jt-1} \quad (9)$$

Where P_{jt} is the closing price of the stock j at time t, $P_{jt-1}$is the closing price of the stock j at time t-1. This variable represents the dependent variable in the proposed model

4. Results

4.1 Descriptive Statistics

The included companies belong to three different sectors in the ASE: industrial companies, financial companies, and services companies. About 49% of the included companies were from the industrial sector, 21% from the financial sector, and 30% were from the services sector. Descriptive information about size, financial leverage, and operating leverage for these companies are illustrated in Table 1.

Table 1. Descriptive statistics for variables of: size, financial leverage, and operating leverage

Variable	Mean	Median	Min	Max
Size	63 255 159	15 651 911	1 802 694	1 202 152 790
Financial leverage	.049	.018	0	.767
Operating leverage	.343	.310	.003	.891

4.2 Hypotheses Testing

4.2.1 Hypothesis One

Hypothesis one includes testing two regression models:

$$R_{jt} - R_{ft} = a_i + \beta_j (R_{Mt} - R_{ft}) + e_{jt} \quad (10)$$

$$\overline{R_j - R_f} = \lambda_0 + \lambda_1 b_j + \lambda_2 \sigma^2 (e_j) + e'_j \quad (11)$$

The null and alternate hypotheses for the first regression model can be expressed as:

H_0: a_i , $\beta_j = 0$

H_1: a_i , $\beta_j \neq 0$

And for the second regression:

H_0: $\lambda_0 = 0$, $\lambda_1 = \overline{R_M - R_f}$, $\lambda_2 = 0$

H_1: $\lambda_0 \neq 0$, $\lambda_1 \neq \overline{R_M - R_f}$, $\lambda_2 \neq 0$

Where ai is the intercept of the line of the asset excess return (Rjt - Rft), $\overline{R_j - R_f}$ is the average monthly risk premium on stock j during the period of the study, $\overline{R_M - R_f}$ is the average monthly risk premium on the market portfolio during the period of the study, e_{jt} is the error term of the rate of return of stock j during the month t, and σ^2 (e_j) is the variance of stock j error term during the period of the study.

Data required to test this hypothesis were the treasury bills returns (risk-free asset), the ASE index monthly closing prices (market returns) and the monthly closing prices of each company of the 90 companies included in the study for the period from December 1999 to December 2015. The first regression was used to find the parameter β for each stock and then use these parameters in the second regression. If the single-factor CAPM is true, λ_0 should not be significantly different from zero, λ_1 should equal the average market excess return ($\overline{R_M - R_f}$), and λ_2 should not be significantly different from zero. The calculated average market excess return was -0.055% which represents the hypothesized value for λ_1.

The results of the second regression and *t* statistic are summarized in Table 2. Based on information provided in Table 2 and using the significance level of 5%, the null hypothesis that $\lambda_0 = 0$ can be rejected which means that the value of λ_0 was significantly different from zero, $t(89) = -4.721$, $p < .001$. The null hypothesis that $\lambda_1 = \overline{RM - Rf} = -0.055\%$ can be rejected, $t(89) = 2.211$, $p = .015$ and thus, $\lambda_1 \neq -0.055\%$. Finally, null hypothesis that $\lambda_2 = 0$ can be rejected, $t(89) = 7.069$, $p < .001$ which means that λ_2 value was significantly different from zero.

Table 2. *t* Statistic and *p* values for hypothesis one- second regression

Details	λ_0	λ_1	λ_2
Coefficient	-0.576	0.279	0.304
Hypothesized value	0.000	-0.055	0.000
Standard error	.122	.151	.043
t statistic	-4.721	2.211	7.069
p value	<.001	.015	<.001
Adjusted R squared .389			

4.2.2 Hypothesis Two

The null and alternate hypotheses here can be expressed as:

H_0: $\mu(\overline{R_j^S}) \leq \mu(\overline{R_k^L})$

H_1: $\mu(\overline{R_j^S}) > \mu(\overline{R_k^L})$

Where $\mu(\overline{R_j^S})$ is the mean of all small companies' stocks' average rate of return and $\mu(\overline{R_k^L})$ is the mean of all large companies' stocks' average rate of return. Data required to test this hypothesis were the average rate of return and size for each stock included in the study. The size for each stock was calculated by averaging total market value of the company's assets at the beginning and the end of the study period. The median of the sizes was calculated and the companies lower than the median were labeled *small size* while other companies were labeled *large size*.

One-tailed *t* test cannot be conducted using SPSS software, the software includes only two-tailed test. Because of that, I conducted the two-tailed test first and then I divided the resulted significance value by 2 to get the significance for one-tailed test. From information provided in Table 3, the significance value is greater than 5% and thus, the null hypothesis that the average rate of return for stocks with small size is less than or equal to that for stocks with large size cannot be rejected, $t(88) = 0.887$, $p = .189$. This means that the rate of return for small size stocks is not higher than the big size stocks as hypothesized.

Table 3. Results of one-tailed *t* test for hypothesis two

Details		Mean rate of return %	Standard deviation
Small size		0.721	.831
Large size		0.583	.632
t-statistic	0.887		
P value (one-tailed)	.189		

4.2.3 Hypothesis Three

This hypothesis can be expressed as:

H_0: $\mu(\overline{R_j}^{HFL}) \leq \mu(\overline{R_k}^{LFL})$

H_1: $\mu(\overline{R_j}^{HFL}) > \mu(\overline{R_k}^{LFL})$

Where $\mu(\overline{R}_j^{HFL})$ is the mean of all high financial leverage companies' stocks average rate of return, and $\mu(\overline{R}_k^{LFL})$ is the mean of all low financial leverage companies' stocks average rate of return.

Data required to test this hypothesis were the average rate of return and the financial leverage for each stock (company) included in the study. The financial leverage variable for each company was calculated by averaging its financial leverage at the beginning and at the end of the study period. Financial leverage at the beginning and at the end of the study period was measured by dividing total long-term debt by total assets of each company. The statistical test used to test this hypothesis was Mann-Whitney *U* test because after testing data for normality assumption, I found that this assumption was violated and thus, the statistical test was changed from *t*-test to Mann-Whitney *U* test as recommended by Green and Salkind (2014). To conduct Mann-Whitney *U* test, companies with financial leverage higher than the median financial leverage for all companies were assigned to group labeled 1(high financial leverage) while companies with financial leverage lower than the median were assigned to group 2 (low financial leverage).

The result of this test is summarized in Table 4. The table includes the test results after converted to one-tailed by dividing the two-tailed *p* value by two. Based on the results of Mann-Whitney *U* test, the null hypothesis that the average rate of return for stocks with high financial leverage is less than or equal to that for stocks with low financial leverage cannot be rejected, z = -0.835, p = .202. This means that the hypothesized relationship between financial leverage and the rate of return does not exist.

Table 4. Results of Mann-Whitney *U* test for hypothesis three

Group		High financial leverage	Low financial leverage
Average rank		47.8	43.2
N		45	45
P value (one-tailed)	.202		

4.2.4 Hypothesis Four

The null and alternate hypotheses here are:

H_0: $\mu(\overline{R_j}^{HOL}) \leq \mu(\overline{R_k}^{LOL})$

H_1: $\mu(\overline{R_j}^{HOL}) > \mu(\overline{R_k}^{LOL})$

Where $\mu(\overline{R}_j^{HOL})$ is the mean of all high operating leverage stocks' average rate of return and $\mu(\overline{R}_k^{LOL})$ is the mean of all low operating leverage stocks' average rate of return.

The operating leverage variable for each company was calculated by averaging its operating leverage at the beginning and at the end of the study period. Operating leverage at the beginning of the study period was measured by dividing fixed assets on total assets for each company as on 31/12/1999. The same calculations were made to measure the operating average at the end of the study period (31/12/2015). To prepare data for conducting *t* test, each company was assigned to group of high operating leverage (HOL) or low operating leverage (LOL). Companies were assigned to these groups by calculating the median of operating leverage of all companies first and then assign companies with operating leverage higher than the median to the high operating leverage group and companies with operating leverage lower than the median to the group of low operating leverage.

Because the one-tailed *t* test cannot be conducted using SPSS software, I conducted the two-tailed test first and

then I divided the resulted significance value by 2 to get the significance for one-tailed test. The results for one-tailed *t* test are summarized in Table 5. As can be seen in Table 5, the significance value is less than 5% and thus, the null hypothesis that the average rate of return for stocks with high operating leverage is less than or equal to that for stocks with low operating leverage can be rejected, t(88) = 2.042, p = .022. This means that the expected average rate of return for stocks with high operating leverage is greater than the average rate of return for stocks with low operating leverage as hypothesized.

Table 5. Results of one-tailed *t* test for hypothesis four

Details		Mean	Standard deviation
High operating leverage		0.808	.800
Low operating leverage		0.496	.641
t-statistic	2.042		
P value (one-tailed)	.022		

4.2.5 Hypothesis Five

Because the tests of variables of size and financial leverage yielded insignificant results, this hypothesis was modified to include only two variables: market return and operating leverage. Based on this, there are two regression equations for this hypothesis:

$$R_{jt} - R_{ft} = a_j + \beta_j^M (R_{mt} - R_{ft}) + \beta_j^{OL} (HOLLO_t) + e_{jt} \quad (12)$$

$$\overline{Rj - Rf} = \lambda_0 + \lambda_1 b_j^M + \lambda_2 b_j^{OL} + e_j \quad (13)$$

Where,

$R_{jt} - R_{ft}$: excess return of stock j during the month t

$R_{mt} - R_{ft}$: excess return of the market during the month t (the variable of market return)

$HOLLO_t$: the difference between average rate of return of high operating leverage companies and the average rate of return of companies with low operating leverage during the month t. This variable was measured by subtracting the average return of all companies in high operating leverage group during month t from the average return of all companies in the low operating leverage group during the same month.

β_j^M: sensitivity of the stock j return to the market risk variable

β_j^{OL}: sensitivity of the stock j return to the operating leverage risk variable

bj's: are estimates of βj's calculated from Equation 12 regression.

λ_0: represent the intercept of the regression

λ_1: the expected value of the average market excess return

λ_2: the expected value of the excess average return of companies with high operating leverage over average return of companies with low operating leverage

The null and alternate hypotheses for the first regression of this hypothesis can be expressed as:

H_0: a_i , βj^M, $\beta f^{OL} = 0$

H_1: a_i , β_j^M, $\beta_j^{OL} \neq 0$

Where the β_j's are the sensitivity of the expected rate of return of stock j to each risk factor of: market return (R_{tm} - R_{ft}) and operating leverage ($HOLLO_t$).

And for the second regression in Equation 13:

H_0: $\lambda_0 = 0$, $\lambda_1 = \overline{R_M - Rf}$, $\lambda_2 = \overline{HOLLO}$

H1: $\lambda 0 \neq 0$, $\lambda 1 \neq RM - Rf$, $\lambda 2 \neq HOLLO$

The first regression was conducted to find the estimates for *bj's* in the second regression. The average monthly excess return for the market ($\overline{R_M - R_f}$) was -0.00055 and the average monthly excess return for operating leverage variable $\overline{HOLLO}$ was 0.312. Thus, the hypothesized value of $\lambda 1$ and λ_2 were -0.055% and 31.2% respectively. The results of the second regression and *t* statistic are summarized in Table 6. Based on information provided in Table 6 and using the significance level of 5%, the null hypothesis that $\lambda_0 = 0$ cannot be rejected which means that the value of λ_0 was not significantly different from zero, $t(89) = -1.172$, $p = .122$. The null hypothesis that $\lambda_1 = \overline{R_M - R_f} = -0.055\%$ can be rejected, $t(89) = 2.287$, $p = .012$ and thus, $\lambda_1 \neq -0.055\%$.

Finally, null hypothesis that $\lambda_2 = \overline{HOLLO} = 0.312$ cannot be rejected, $t(89) = -0.009$, $p = .496$ which means that λ_2 value was equal to the average excess return caused by operating leverage variable.

Table 6. *t* Statistic and *p* values for hypothesis five- second regression

Details	λ_0	λ_1	λ_2
Coefficient	-0.156	0.359	0.311
Hypothesized value	0.000	-0.055	0.312
Standard error	.133	.181	.101
T statistic	-1.172	2.287	-0.009
p value	.122	.012	.496
Adjusted R squared .115			

4. Discussion

The results of hypotheses testing revealed the single-factor capital asset pricing model is invalid in the Jordanian stock market. This conclusion is in line with the results of studies of many researchers who reached the same conclusion about this market (Alqisie & Alqurran, 2016; Alrgaibat, 2015; Blitz et al., 2013) and about many other countries (Dajčman et al., 2013; Dzaja, & Aljinovic, 2013; Li, Gan, Zhuo, & Mizrach, 2014; Nyangara et al., 2016; Obrimah et al., 2015; Saji, 2014; Wu et al., 2017). The hypothesized relationship between the expected rate of return and variables of size, financial leverage, and market rate of return was found to be insignificant ; the expected rate of return for a stock is directly related to the operating leverage of the stock.

Because the study included all listed companies in the ASE and not only a sample, its results can be generalized for stock markets in Jordan and other emerging markets that have similar attributes despite the existence of some limitations. These limitations include using the ASE index as a proxy for the market, the unavailability of the required data related to the banks listed on ASE, and measuring independent variables in a way different from that used in the previous studies. Further research may be conducted to include more variables other than tested in this study to enhance the explanatory power of the model. In addition, the single-factor model may be tested in the Jordanian stock market using different methods. For example, the model may be tested using portfolios' returns instead of the returns of individual stocks to overcome measurement errors and correlation between nonsystematic risk and beta similar to the approach of Black et al. (1972).

References

Aldaarmy, A., Abbod, M., & Salameh, H. (2015). Implement Fama and French and capital asset pricing models in Saudi Arabia stock market. *The Journal of Applied Business Research, 31*(3), 953-968. https://doi.org/10.19030/jabr.v31i3.9228

Alqisie, A., & Alqurran, T. (2016). Validity of Capital Assets Pricing Model (CAPM)(empirical evidences from Amman Stock Exchange). *Journal of Management Research, 8*(1), 207-223.

Alrgaibat, G. A. (2015). Test of Capital Asset Pricing Model in Amman stock exchange. *Journal of Emerging Trends in Economics and Management Sciences, 6*(2), 137-143. Retrieved from http://jetems.scholarlinkresearch.com/

Amman stock exchange. (2016). *General index*. Retrieved from http://www.ase.com.jo

Bajpai, S., & Sharma, A. K. (2015). An empirical testing of capital asset pricing model in India. *Procedia-Social and Behavioral Sciences, 189*, 259-265. https://doi.org/10.1016/j.sbspro.2015.03.221

Beaulieu, M. C., Dufour, J. M., & Khalaf, L. (2013). Identification-robust estimation and testing of the zero-beta CAPM. *Review of Economic Studies, 80*(3), 892-924. https://doi.org/10.1093/restud/rds044

Bjuggren, P. O., & Eklund, J. E. (2015). Property rights and the cost of capital. *European Journal of Law and Economics, 39*(3), 523-537. https://doi.org/10.1007/s10657-013-9396-x

Black, F. (1972). Capital market equilibrium with restricted borrowing. *The Journal of Business*, *45*(3), 444-455. https://doi.org/10.1086/295472

Black, F., Jensen, M. C., & Scholes, M. (1972). The Capital Asset Pricing Model: Some empirical tests. In M. C. Jensen (Ed.), *Studies in the theory of capital markets*. Connecticut, CT: Praeger Publishers Inc.

Blitz, D., Pang, J., & Van Vliet, P. (2013). The volatility effect in emerging markets. *Emerging Markets Review, 16*, 31-45. https://doi.org/10.1016/j.ememar.2013.02.004

Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of finance*, 52(1), 57-82. https://doi.org/10.1111/j.1540-6261.1997.tb03808.x

Chan, H. W., & Faff, R. W. (2005). Asset pricing and the illiquidity premium. *Financial Review*, *40*(4), 429-458. https://doi.org/10.1111/j.1540-6288.2005.00118.x

Chaudhary, P. (2017). Testing of CAPM in Indian context. *Business Analyst, 37*(1), 1-18. Retrieved from http://www.srcc.edu/publications/business-analyst

Chawla, G. K. (2014). Estimating cost of capital in today's economic environment. *Journal of Business and Behavior Sciences, 26*(3), 102-111. Retrieved from http://asbbs.org/jsbbs.html

Dajčman, S., Festić, M., & Kavkler, A. (2013). Multiscale test of CAPM for three central and eastern European stock markets. *Journal of Business Economics and Management, 14*(1), 54-76. https://doi.org/10.3846/16111699.2011.633097

Dzaja, J., & Aljinovic, Z. (2013). Testing CAPM model on the emerging markets of the central and southeastern Europe. *Croatian Operational Research Review, 4*, 164-175. Retrieved from http://hrcak.srce.hr/crorr

El-Mousallamy, D., & El-Masry, A. A. (2016). A comparative study of the performance of Saudi mutual funds. *Corporate Ownership & Control, 13*(4), 89-101. Retrieved from http://www.virtusinterpress.org/-Journals-.html

Fama, E. F., & French, K. R. (1992). The cross-section of expected stock returns. *The Journal of Finance, 47*(2), 427-465. https://doi.org/10.1111/j.1540-6261.1992.tb04398.x

Garyn-Tal, S., & Lauterbach, B. (2015). The formulation of the four factor model when a considerable proportion of firms is dual-listed. *Emerging Markets Review, 24*, 1-12. https://doi.org/10.1016/j.ememar.2015.05.006

Green, S. B., & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed.). Upper Saddle River, NJ: Pearson.

Lee, H. S., Cheng, F. F., & Chong, S. C. (2016). Markowitz portfolio theory and capital asset pricing model for Kuala Lumpur stock exchange: A case revisited. *International Journal of Economics and Financial Issues, 6*(3S). Retrieved from https://www.econjournals.com/index.php/ijefi

Lee, S., & Park, S. B. (2013). A study on the association between operating leverage and risk: The case of the airline industry. *International Journal of Economics and Finance, 6*(3), 120. https://doi.org/10.5539/ijef.v6n3p120

Li, L., Gan, Q., Zhuo, Z., & Mizrach, B. (2014). Testing the CAPM theory based on a new model for Fama-French 25 portfolio returns. *Theoretical Economics Letters, 4*(08), 666. https://doi.org/10.4236/tel.2014.48085

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics, 4*(1), 13-37. https://doi.org/10.2307/1924119

Mossin, J. (1966). Equilibrium in a Capital Asset Market. *Econometrica, 34*, 768-783. https://doi.org/10.2307/1910098

Novak, J. (2015). Systematic risk changes, negative realized excess returns and time-varying CAPM beta. *Finance a Uver, 65*(2), 167. Retrieved from http://journal.fsv.cuni.cz/

Nyangara, M., Nyangara, D., Ndlovu, G., & Tyavambiza, T. (2016). An empirical test of the validity of the capital asset pricing model on the Zimbabwe stock exchange. *International Journal of Economics and Financial Issues, 6*(2), 365-379. Retrieved from https://www.econjournals.com/index.php/ijefi

Obrimah, O. A., Alabi, J., & Ugo-Harry, B. (2015). How relevant is the capital asset pricing model (CAPM) for tests of market efficiency on the Nigerian stock exchange? *African Development Review, 27*(3), 262-273. https://doi.org/10.1111/1467-8268.12145

Saji, T. G. (2014). Is CAPM dead in emerging market? Indian evidence. *IUP Journal of Financial Risk Management, 11*(3), 7-17. Retrieved from http://www.iupindia.in/FinancialRisk_Management.asp

Sattar, M. (2017). CAPM Vs Fama-French three-factor model: an evaluation of effectiveness in explaining excess return in Dhaka stock exchange. *International Journal of Business and Management, 12*(5), 119.

Sharifzadeh, M. (2005). *An empirical and theoretical analysis of capital asset pricing model* (Doctoral dissertation). Available from ProQuest Digital Dissertations and Theses database. (UMI No. 3195273)

Sharpe, W. F. (1964). Capital asset prices: a theory of market equilibrium under conditions of risk. *The Journal of Finance, 19*(3), 425-442.

Tan, N., Chua, J., & Salamanca, P. (2015). Study of the overall impact of financial levearge and other determinants of systematic risk. *Proceedings of the Research Congress, Philippines, 3*, 1-7. Retrieved from http://www.dlsu.edu.ph/conferences

World Bank. (2016). *Gross savings data*. Retrieved from http://data.worldbank.org

Wu, M., Imran, M., Feng, Y., Zhang, L., & Abbas, M. (2017). Review and Validity of Capital Asset Pricing Model: Evidence from Pakistan stock exchange. *International Research in Economics and Finance, 1*(1), 21-31. https://doi.org/10.20849/iref.v1i1.267

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Educ*ation, *48*(2), 311-325. https://doi.org/10.1111/ejed.12014

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Banks and Fintechs: How to Develop a Digital Open Banking Approach for the Bank's Future

Anna Eugenia Omarini[1]

[1]Bocconi University, Department of Finance, Via Roentegen 1 - 20136 Milano, Italy

Correspondence: Anna Eugenia Omarini, Bocconi University, Department of Finance, Via Roentegen 1 - 20136 Milano, Italy.

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Abstract

Mutated market conditions, the advent of new players and digital technologies, and a significant regulatory push, are profoundly changing the banking industry. Banking business models may shift significantly from a pipeline, vertical, paradigm, to open banking models where modularity can be an opportunity for banks. Not only are the abovementioned factors representing a threat to the traditional model, but also they are spurring significant new opportunities to pursue new revenue streams. Those opportunities are exploited through new banking paradigms that entail higher levels of openness towards third parties and a crescent number of modular services bundled together. Models can go to mere compliance with the prescriptions of openness of PSD2, to the inclusion of new services, the opening of the banking core and data, and the aggregation of those within a platform experience. Value is created in platforms through economies of scope in production and innovation.

This paper has explored the evolution of Fintech and Techfin in the market and the emergence of platform models in banking. It has investigated the evolution of that concept, also introducing an interesting banking case (BBVA), which gives several insights on the choices made toward a Banking-as-a-Platform model within the context of Fintech and Open Banking.

Keywords: digital transformation; FinTech; Techfin; retail banking; open banking; business model; open innovation; platform

JEL: G20, G21, G28

Declarations of interest: none

1. Introduction

New trends are constantly appearing in the market; some of them can be good for banks, while others may appear not being so good. In this new emerging context, there are many dynamic changes to look at and be ready to face, and a strategic plan is fundamental to getting ahead, so that each retail bank should develop its own version of the future, according to its strengths, weaknesses, and constraints. Each economic choice has its own constrains and this occurs when an agent must determine the optimal combination of choice variables (given some relationship between combinations of those variables and payoffs) in the face of a constraint limiting the set of feasible combinations for those variables available to the agent. This situation also arises when agents must make forward-looking decisions or when they are uncertain about the future (Mas-Colell, 1995). This is the case for retail banks, whose future lies in the needs of their customers, which are under important changes. Sometimes banks have seemed schizophrenic, and one of their weaknesses lies in lagging an effective execution of a real market-oriented strategy (Omarini, 2016). Given that, banks have become less central to their customers' everyday lives, while other businesses are eyeing banking activity with major interest, sizing up any potential gaps in the market for themselves. From this situation, we gather an important message to outline, which is that banking is not in search of relevance in the economy. The issue instead moves on the output for a better service, because only a better service always leads to more sales; and this becomes even more important when an economic agent sells services, as it is the case for banks (Omarini, 2015). On this same issue, Fintech and Techfin companies' missions have been inspired so that they have both decided entering the market. Given that, banks have to regain their market position and set out all their capabilities to help customers meet their life events and opportunities, rather than just supplying the many components for them to build solutions.

This work has its premises in this situation of change and collocates itself in the position to shed a light on the need for an effective strategic repositioning of banks' strategies, taking advantage of the scale of banks from one hand, and the evolving digital ecosystem (Microsoft Services, 2017) on the other hand. The challenge is to keep the entire 'customer game' inside the retail bank, and this can be possible under certain conditions.

There is a number of innovations, which are gaining real traction in the market, from a technology perspective. Cloud, particularly Platform as a Service (PaaS) and Software as a Service (SaaS) are lowering the barrier to sophisticated financial applications by allowing people and talent to focus on business value added tasks as opposed to the building, supporting and managing of infrastructures. Advanced Artificial Intelligence (AI) and Machine Learning techniques are allowing data scientists and researchers to reveal non-obvious patterns in complex, high dimensional data. Internet of Things (IoT) is also allowing real-time sensors to assess businesses and assets financed continually, and create new partnerships between them. All this, and more, regards the changes that Open Banking will bring with it, and they may encourage switching and comparison, with improved results and product offerings for consumers. Also encouraging consumers to share information with third party providers to get the best possible deal, move, manage and make more of their money and giving individuals more control over the data they share; attracting and retaining customers is going to become even more important for financial institutions.

Given that banks have to move from running their business to change the bank, because many insights tell that, the way banks operate may be disrupted from certain points of view, so that now for banks there is a wake-up call.

The aim of this work is two-fold: describing why Fintechs and Techfins entered the market (paragraph 2); and exploring the themes and economics relating to a digital open bank approach (paragraphs 3 and related). In this regard, a managerial perspective is given to outline the changes needed to move from running to changing a bank. Because leading banks will go a step, further than the competition and transform the bank-client relationship models. To exploit an example on this direction, we develop a brief analysis of the banking case of BBVA (paragraph 4 and related), as an interesting example of a bank-Fintech collaboration. Finally, in paragraph five conclusions and implications have been outlined.

2. Fintech and Techfin: Different Perspectives Move Their Entering the Financial Market

According to Arner, Barberis & Buckley (2015) the label Fintech entered the market as the employment of technology to provide financial services. Blake & Vanham (2016) refer to Fintech as the use of technology with respect to the design and provision of financial services. In addition, (PwC, 2016, p. 1) describes the word "Fintech" (contraction for Financial Technology) as *the evolving intersection of financial services and technology*. In the past, the term was used to merely indicate the technology embedded in the backbone of financial institutions; however, now it encompasses any innovation in the financial services industry (Investopedia, 2017).

A broader definition of Fintech comes from the Financial Stability Board (FSI, 2017, June 27), which describes Fintech as follows: *technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services.*

The Fintech notion relates to disrupting start-ups (henceforth, also labelled as Fintechs) (Chishti & Barberis, 2016). While for the diversified tech giants (e.g. Google, Amazon, Apple, Alibaba, etc.) the definition is that of Techfins.

According to the European Banking Institute – EBI - (Dirk A. Zetzsche, 2017) Techfins start with technology, data, and access to customers. *Then they move into the world of finance by leveraging their access to data and customers and seek to out-compete incumbent financial firms or FinTech startups. By selling the data to financial services providers or by leveraging its customer relationships by serving as a conduit through which its customers can access financial services provided by a separate institution, they could develop later a different strategy by providing financial services directly itself.*

This is the critical distinction between a Techfin and a Fintech startup compared to a traditional financial institution, such as a bank, which typically starts with a banking relationship with customers and have only recently even begun to consider supplementing their risk analysis of customers by using more broadly derived data.

Often, the services offered by Fintechs are perceived as of better quality, more convenient, and richer in choice (PwC, 2016; PwC, 2017a; EY, 2017). In this environment, new models have populated the market, with an offer

that has never been so rich. It is with this respect that Fintech has brought to the traditional banking industry a wave of competition and would be able to break pipeline value chains (KPMG, 2017), unbundling them into different modules of products or services, which can be developed among themselves. As a result, EY (2017) found that, nowadays, at least a third of consumers of digital products use a minimum of two Fintech services, demonstrating the appetite for new technologies, especially in niches that previously found it difficult or not convenient to access banking services.

Nowadays, almost 90 per cent of the banking executives think that they could somehow lose business to disruptors (PwC, 2017a). The bottom line of this is that banks have increasingly focused on technological aspects and on the use of new technologies in financial services (Omarini, 2018).

The digital transformation is not really a pure technological revolution. Indeed, it is the driving force of the new industrial revolution, which concerns the development of new information and communication technologies, where the increased usage of digital devices and digital platforms are transforming the way customers do their banking, change market expectations, and are going to transform the model of financial intermediation as well (Dhar & Stein, 2016). Consequently, the digital evolution seems to make retail banks, in particular, inevitably become victims of disintermediation as more activities become available online, and technology started breaking up value chains. So that strategists could no longer take their value chains as a given: they had to make hard choices about which parts of them to protect, which to abandon. However, on this hand the picture is not necessary completely bleak for banks. They perform several functions, and computer networks (i.e., their safe deposit business, where new entrants were less interested in offering them at the beginning) will affect not all of them; notwithstanding their business model (See Box 1) should change. Overall, if we consider that the advent of Internet and the technological changes have played a major role in the recognition of the relevance of an explicit business model, mainly due to the strategic choice of many dot-com of using it as an instrument for gathering funds.

Box 1. Business Models in a nutshell: a bank perspective

The terminology "business model" was first used by Drucker in his "The Practice of Management" (1954) through which he irreversibly perturbed the history of managerial studies by recognizing the importance played by the external environment on the proactive managerial activity of choosing the way a company should be designed. According to Itami & Nishino (2010) a business model has two elements worth outlining and they are the business system and profit model respectively. Although, generally people focus on the profit model because it looks more important due to the fact that it is more visible and directly related with money generation, the business system is actually the key element, which is designed with the aim of defining the way the goals will be achieved. It can be decomposed further into two more elements: the so-called learning system and the delivery system (either internal or external). The core invisible assets (or capabilities) of a firm delineate its profile – by setting its boundaries – and determine the current delivery system which, through the learning system, provokes the evolution of invisible assets in the future, and thus a new business system will be designed according to the relation between the two. This interdependence between current capabilities and the business system explains the reason why dynamism is important when talking about business models and innovation. As stated by (Teece, 2010), business models are situational and they are originated through an iterative process which allows exploiting learning, for instance drawing inspiration for the design of a new or renewed business model from other sectors, or competitors.

The business model itself can be a competitive advantage if it is coupled appropriately with business strategy, conditional on it being able to convey value propositions, which are relevant to customers and capturing value by means of superior cost and risk structures. Moreover, a business model cannot be competitive in the long run, if externals can copy it easily. For this, it should contemplate an isolating mechanism, which can be in the form of hard-to-replicate systems or assets, general opacity of the model, or simply high degree of cannibalization hindering incumbents' trial to adopt the new business model for their own activity.

Moving into banking literature on business model analysis, there is some interesting literature with a particular regulator's perspective, which takes into consideration, overall, the issues for a bank to be stable and resilient to market shocks. This means putting a major attention on the degree and kind of diversification a bank develops such as entering different businesses, such as retail banking, corporate banking and investment banking. In particular, the ECB study on business models published in the Special Features section of the Financial Stability Review (2016) is an empirical analysis on Banking Business Models (BBMs). Nevertheless, the most referenced studies on BBMs are those redacted by Ayadi et al. (2011) (2012) (2014) (2015) with the aim of identifying the exact number and composition of different Banking Business Models in the European environment. Ayadi's

papers aim at spotting the different BBMs based on the nature and scope of banks' funding strategies and the performed activities by employing statistical procedures. Given that, Ayadi et al. classified into five groups of banks by differentiating from one another for their activities being more or less market-oriented and their funding structure. Three of the five clusters refer to banks performing retail-oriented activities – namely one cluster considers banks focusing on deposit-taking and lending activities, another cluster was based on the customer deposit taking and trading activities. Finally, the third group of retail-oriented banks is active in trading but differs in funding strategy, with heavy reliance on debt liabilities. The remaining two clusters are the wholesale banks – performing bank-intermediation activities – and investment bank – characterized by trading and investment-oriented activities. A recent paper on BBMs is made by European Banking Association (EBA) (Cernov & Urbano, 2018, June), which offers a structured and consistent approach to regulatory impact assessment, analyzing trends and risks, proportionality, and supervision, so to ensure the continuity and comparability of results over time.

Given all that above, it is clear that the perspective has a little approach on a pure bank strategy market positioning (Omarini, 2014).

Digitization of products, services, and business processes allow disruptive players to assemble and deliver the same, but also a new set of value a traditional competitor provides—and even augment it—without having to reproduce the whole conventional value chain. In fact, that is the objective of digital disruption (Citibank, 2016): to provide superior value to the end customer—either a consumer or another business—while avoiding the capital investments, regulatory requirements, and other impediments of encumbered incumbents with a new and different business model (de Jong & van Dijk, 2015) (Omarini, 2018). The prerequisite of letting this to become possible lies on the fact that the components of the Internet revolution are "just bits", which become software, protocols, languages, and capabilities that can be combined and recombined in ways to create totally new innovations. These immaterial components make simple to spread them around the world, and so develop a huge number of innovations. The most successful disruptors employ "combinatorial disruption," in which multiple sources of value—cost, experience, and platform—are fused to create disruptive new business models and exponential gains (Varian, 2001). This can also be synthetized as open innovation In literature open innovation has widely described as process offering its benefits in terms of effectiveness –using more outside ideas– efficiency – specialization and economies of scale and scope, cost and risk sharing (Chesbrough, 2003; Chesbrough, 2006; Enkel, Gassmann, & Chesbrough, 2009; Chesbrough, 2011; Chesbrough, Vanhaverbeke, & West, 2014). In other words open innovation in brief implies that a firm uses both internal and external ways to create new products (Chesbrough, 2011), and increase flexibility in the way it can provide a market request on time (Schueffel & Vadana, 2015) and easily tailored it to its customer's tastes. The ability to innovate becomes a strategic prerequisite for the financial services industry's growth and success and the adoption of open innovation practices can foster collaboration and facilitate the rethinking of the industry's existing business model and value proposition, within an increasingly complex and volatile world. Given that, each financial institution should show willingness to understand the people primarily, and the individual working relationships, along with organizational values, visions, strategies and place in the market (Mention & Salampasis, 2018).

Given all that above, we think the main forces shaping these changes have led the industry to reconsider the role of banking and finance, more as a strategic "enabler" than a provider of products and services. We think the main reason for this shift in the role of banking and finance lies on the fact that bank and financial services rely heavily on the transformation and management of information (on accounts, on balances, on asset classes, etc.), through which for many years banks have been able to lower transaction costs for their customers (Deutsche Bank, 2014). Modern technologies, overall based on the digital paradigm, have made the role of traditional banks outdated, as most of this information is processed more easily and at a greater efficiency, further lowering transaction costs with respect to banks. This means for banks to change their strategic perspective and work on increasing value for their stakeholders, among which customers play an important role, at present.

3. The Shifting Paradigm of Banking from Unbundling to Re-Bundling Services: New Business Opportunities Are Arising

At present, we can outline two mainstreams in the banking arena; the first one regards the paradigm of banking, which will move more and more on digital premises, so to make it modular and flexible to face diverse and changing customer's needs. Chen *et al.* (2017) use the concept of *technology power* as technology is going to be the most relevant element in competition within banking.

During this stage, technology in banks is overall used to develop a renewed bank-customer experience. Consequently, banks have invested huge sums in technology –automating processes and enabling customers to

bank online throughout different devices– but this has not seen the fundamental transformation of business models yet, the ones that had taken place in other sectors, such as music. This will happen in banks as well, and when it does, it will have a huge impact on the financial intermediation model. Some of the consequences are clear from other industries. Intermediaries disappear or are marginalized unless they discover new ways of adding value. Look at what has happened to recorded music companies or bookshops. What is going to happen in the financial system in three to five years, and how it is going to change its intermediation model, is not fully clear yet. What is well known is that banks, which are the primary intermediaries of the financial world, are experiencing sharp and further reduction in their margins unless they reinvent what they offer their customers and how they work. Linked to this, there is the second stream of changes, which seems being less visible now. Banking, as of today, is shifting from a universal model –where economies of scale, scope and some conflict of interests have risen in the market – to a new wave of bundling of services and business models from third-party companies, all of them focused on customers and not on what banks, or any single financial institution, may sell to the market.

Once Fintech have entered the market, the market has experienced a wave of unbundling, which has brought to the traditional banking industry with a consequence of changing the game of competition, because they were able to break pipeline value chains, unbundling them into different modules of products or services, and combine among themselves. In addition, because the services offered by Fintechs are perceived as of better quality, more convenient, and richer in choice (PwC, 2016) (PwC, 2017a) (PwC, 2017b) (EY, 2017), as well as perceived to be more transparent from a customer's perspective, then the customer's choice has become the issue for each business model in the market arena (Magretta, 2002) (Omarini, 2015). The main result coming from this situation, nowadays, is that at least a third of consumers of digital products use a minimum of two Fintech services (EY, 2017), demonstrating the appetite for new technologies, especially in niches that previously found it difficult or not convenient to access banking services. Given that, Fintech firms are earning reputation for customer-centricity by bridging the gap between what financial services currently offers versus what today's customer want.

Moreover, behind the unbundling process undertaking in the financial industry there is a strategic risk for banks. The potential for rapid unbundling of bank services to non-bank Fintech or Techfin firms increases risks to profitability at individual banks, since the beginning and in the end a decrease institutional stature of banks into the everyday customers' life. Existing financial institutions stand to lose a substantial part of their market share and/or profit margin if new entrants are able to use innovation more efficiently, deliver less expensive services that may meet customer expectations better, and overall develop a more personalized and time to market answers to customers. At this point, however, it is worth outlining that, at present, behind most of Fintech companies lies conventional infrastructure, and/or components of the traditional banking value chain (think of clearing and settlement for payments, credit bureau for lending, etc.). (Brainard, 2017)

In today's environment, a disruptive deterioration of profitability due to the loss of profitable direct customer relationships and/or margin compression might weaken the ability of incumbent institutions to weather future business cycles, for example, if banks react to falling profits by engaging in riskier activities, such as moving down the credit spectrum.

All this above is a part of the big picture, which is going to take its evolution over the next few years, thanks to new technologies and dynamics in banking (Broeders & Khanna, 2015), along with the nascent surrounding ecosystem, which spur anyway significant opportunities for the most responsive and market-oriented players. Given that, banks and new actors can meaningfully cooperate in order to innovate and compete within the industry. While the acceleration towards an open industry has provided by regulation (such as the Payment Service Directive – PSD2), at the same time, proactive approaches towards an open paradigm, which can be a successful move for banks trying to take advantage of the nascent digital ecosystem and follow the market. In between mandatory requirements and full openness with sophisticated Application Programming Interfaces (APIs), and in between few and a diverse range of products and services involved, lies a whole set of choices about the level to which banks decide to collaborate with other firms. APIs show to be the heart of Fintech revolution, this is because they affect the way in which customer consume products and services online, and also the way of working and understanding the corporate world. Furthermore, the API does not stop being a source of data for a third party, because it lets each one being in the system to access and use its information. The added value is that each bank or financial institution can access a lot of data sources that generate a large volume of information that is as valuable as it is unwieldy. Given these opportunities the second wave of role of Fintechs in the market moves from being disrupters to partners, infect some Fintechs in the market have started a framework of collaboration with incumbents, whose infrastructure, regulation expertise, scale and trust are useful. The most proactive banks can try to monetise on what PSD2 at the European level, but similar open banking regulatory

frameworks can be found in other countries as well. This stream of regulation mandates and construct paradigms characterised by efficiency, new products and services, and enhanced use of data. However, the set of options for banks for reinventing themselves has no limitations except for the single banks' constrains. All this is indeed an attempt to be at the centre of an open landscape in which products and services can be delivered through interaction within a broad ecosystem, also aggregating a diverse offering to provide significant value to match the demand conditions in the market.

Executives within banking stressed the concept of openness as an opportunity to be the first point of contact with the customer in a wider array of services, hence targeting cross- and up-selling (Finextra & CA Technologies, 2016). However, we think that the value of Fintechs to partner with banks or other financial institutions is far beyond that of being a better customer gateway. An example of framework coming from this collaboration, is outlined by KPMG (2017, p. 24), when they outline Fintechs:

1. Enable access for customers that were previously excluded from the traditional financial system by enhancing infrastructure, innovating in new products, lowering costs and allowing them to enjoy the same standards of services as other customers.
2. Are able to analyze customer data to offer personalized services, and provide more interactive communication through multiple channels, significantly increasing customer engagement and experience.
3. Enable aggregation of products/services and data, providing information on choices, coverage and pricing of products and services, enhancing fair customer outcomes.
4. Through use of data analytics and other technologies, offer possible solutions to improve security, mitigate risks and streamline compliance processes (RegTech).
5. Thanks to the use of AI and data analytics have enabled these companies to provide tailored customer support and guidance in a cost effective way. They help customers develop financial knowledge and good saving and spending habits.

3.1 The Paradigm of Open Banking in the PSD2 Framework: in a Nutshell

The advent of PSD2 has opened many of the payment and banking industry services to third parties and constituted a threat to revenue streams deemed as certain. This piece of regulation shifted indeed the intellectual property on data from banks to customers. The pipeline business model was threatened by the emphasis that PSD2 put on services, which could be sold by any recognised provider, rather than only by the bank in possession of account information.

PSD2 has opened the banking sector. Now banks are mandated to be able to provide access and to communicate, to authorized third parties, customer and payment account information. Within this framework, banks set up open interfaces, namely APIs, in order to ensure they are fully compliant. However, besides the mandatory prescriptions of PSD2, there is a whole span of choices that banks can select in terms of openness and services involved. This aspect has given substance to the notion of "Open Banking". This approach relates to Open Innovation literature to the extent that banks rely on the flow of inside and outside ideas to develop products and services, and innovative processes (Chesbrough, 2003; Chesbrough, 2011). However, also existing products and services are provided in new ways and in collaboration with third parties, an additional fact that creates the premises to define an entire ecosystem around the concept of Open Banking. Banks can select the level of openness and the type of value they want to provide according to business and demand, organizational, and capital expenditure considerations. In addition, banks can select to integrate their offering in the business model of other players. Overall, what matters is the openness of the paradigm, in which the bank interacts within the surrounding ecosystem.

In this sense, the work of Cortet, Rijks, & Nijland (Cortet, Rijks, & Nijland, 2016) was relevant as they identified four different strategies that specifically address Open Banking models that a bank may pursue in a PSD2 context; and they are:

- Comply. The bank opens information only to the extent it is mandated to do so. In here, there is a strong reconsideration of the value proposition. Traditional revenue streams that were deemed as certain are impacted, third-party interfaces disintermediate the bank. In here, banks retain their role as an account service provider and backbone of the system.

- Compete. Banks react and, besides compliance, they try to fight for customer proximity through their own interfaces, with the implication of rethinking the overall model in terms of value proposition, processes, costs, revenues, and channels.
- Expand. This strategy goes beyond exposing basic account information. Banks can expose open APIs and pursue new revenue streams, especially from providing full account information and specific services, such as data management and identity verification, to third parties. In here banks become the gate through which third parties can access data and other services.
- Transform. This is a specific subset of Open Banking, where a platform strategy can take its implementation. In here banks offer specifically a core around which other players can build their offering, in addition to connecting users across different groups, facilitating matchmaking. With this model, there is a radical re-thinking of the business model. Banks indeed also try to monetise APIs as well as competing and profiting from an own enhanced value proposition to customers, fulfilling shifting market needs.

It appears evident that all of the four strategies entail some rethinking of the overall banking business model - intended as processes and value proposition, customer segments, revenues and costs, channels and distribution, external interaction and co-operation - in the direction they are addressing (Osterwalder, 2013; Cortet, Rijks, & Nijland, 2016), as well as governance and internal organisation. Indeed, the Open Banking model fostered by PSD2 take advantage specifically from APIs. The traditional account relationship becomes the basis for offering a broader array of services – rethink value proposition, segments and revenues – from bank and non-bank players – rethink external co-operation - in a more efficient guise – rethink costs - and through either bank or non-bank new interfaces – rethink channels of contact.

Similarly enough to Cortet, Rijks, & Nijland (2016), consulting literature has widely dealt with Open Banking models, (see for example PwC, 2017b; Deloitte, 2017; Brodsky & Oakes, 2017). In paricular, PwC (2017b), has classified Open Banking models according to value added and level of openness selected by banks. That resulted in a scenario where banks could adopt models entailing (See Figure 1):

- Compliance with PSD2 through minimum openness at the mandated levels and low value added in terms of proposition (similar to the *"comply"* strategy).
- Low openness and high value added with new proprietary services and functionalities developed (similar to the *"compete"* strategy).
- Maximum openness and low value through providing enhanced data and information to third parties (similar to the *"expand"* strategy).
- Maximum openness and high value through providing advanced data and information, allowing for third-party applications to be embedded within the core functionalities and taking an active role in integrating internal and external offerings within the owned platform architecture (similar to the "*transform"*strategy).

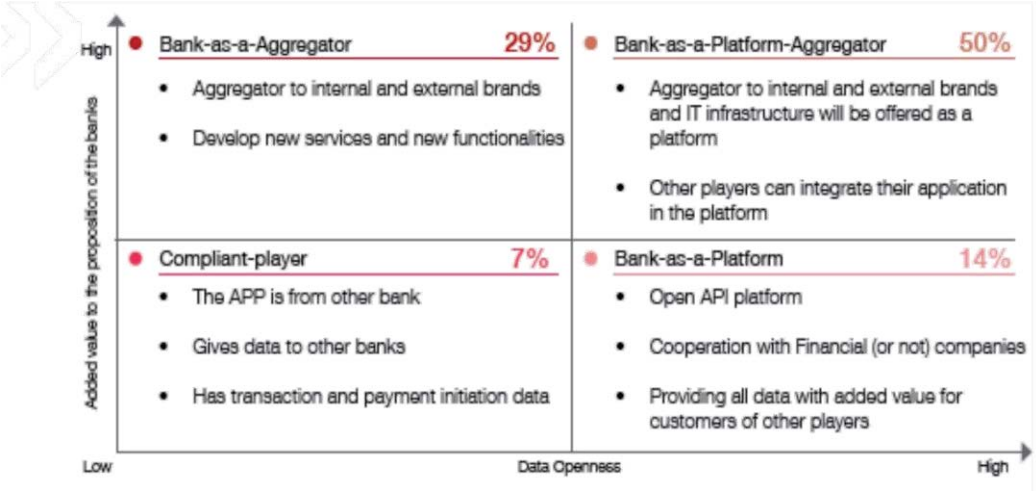

Figure 1. Which strategic positioning are Banks aiming to achieve in the long term?

Source: PWC (2017b). Waiting until the Eleventh Hour. European banks reaction to PSD2, Report, p.4

The PwC report shows that (2017b, p. 5) *half of banks aspire to be a platform aggregator, which would mean developing an open platform that allows partners to integrate their products and services into the bank's offering while providing an open platform for generating new products and services based on the bank's API and data. (...) However, the reality is that only a handful of large banks could reasonably expect to build a truly powerful partner ecosystem. In fact, we doubt that many third parties will be willing to connect to multiple banks as long as there is no common API standard across Europe. Third parties will instead turn to data consolidators to accomplish this cumbersome job for them. (...) Given this reality, banks need to perform a rigorous self-assessment as they transition to the world of opening banking, including their market positioning and competitive strengths. Further, they need to analyze their products and services portfolio and determine their disintermediation risk for each product and service they offer. Additionally, factors such as capital requirements and various risks (such as operational and IT risks) might need to be analyzed to determine in which areas and how actively a bank should push an open banking approach.*

4. The BBVA Case[1]

Banco Bilbao Vizcaya Argentaria, better known as BBVA, is a primary international bank, headquartered in Bilbao, Spain. Founded in 1857 as Banco de Bilbao, the BBVA of today is the result of an intense merger and consolidation activity throughout the whole 20th Century. In particular, since the second half of the 1990s, the bank has experienced a strong international expansion through this intense activity. In this period, the strategy of BBVA shifted toward increasing its footprint and diversification in high-growth markets. While having reached the dimensions of a global actor, at the beginning of the 2000s, BBVA integrated all the different entities that composed its universe under one, unique, BBVA entity, with the aim of simplifying the complexity that arose from its buoyant expansion. In addition, through this process, the bank aimed at creating a unique, appealing brand for all its activities. The serial consolidation activity among smaller banks and acquisition of other players not only in Spain, but mainly beyond national borders, allowed BBVA to achieve a sound geographic diversification through relevant presence both in developed (European Union and United States) and emerging markets (Turkey and Mexico in particular). In this process, the bank demonstrated that good organisational and corporate management capabilities were embedded within the company. In fact, BBVA distinguished itself in the expansion process by quickly integrating and harmonising different realities with diverse client bases, infrastructures and channels. The focus of the bank would remain indeed on superior, consistent, customer experience, an aspect on which BBVA prides itself. Currently, the bank is present in over 30 countries inside and outside the European Union, with a particular position of strength, outside Spain, in the United States, Latin America (especially Mexico), and Turkey. The bank employs 132,000 people that serve over 72 million customers, with approximately 690 billion Euros in balance sheet assets. The bank offers a thorough range of products and services across a universal banking model that spans from retail banking (accounts, payments, loans and mortgages, plans and investment funds, insurance…) to corporate and investment banking (markets, investment banking, transaction services…). The BBVA vision entails the customer at the very centre of attention, and is articulated as follows (BBVA, 2017):

"Offering the best banking solutions, in accordance with their (customers') needs".

"Helping them (customers) make better financial decisions".

"Having a positive impact on people's lives and companies' activities".

After the crisis, the bank heavily invested in digital development and improving its technological infrastructure. The bank recognised the importance of new digital paradigms to compete effectively. An enriched digital proposition, along with new ways of customer interaction was considered being a crucial aspect to achieve success within the banking industry. BBVA has progressively embedded digitality within its vision for the future, trying to increase revenues from digital products and services. Customer relationships is preserved in the vision of the bank, by keeping on satisfying ever-shifting customer needs, to be a *"bank of the 21st Century"* (BBVA, 2017). In this period, BBVA top management stressed how digital priorities passed through:

1) Renewed channels.

2) Driving sales of digital bank and non-bank products.

3) Entry in new segments also through collaboration with Fintechs.

4) Transformation in culture, teamwork, and artefacts to foster the development of new solutions and innovative

[1] BBVA. (2017). BBVA-Corporate Information is retrieved from the website: https://www.bbva.com/en/corporate-information/

thinking.

Given that, BBVA has worked at reshaping its offering radically, pursuing new opportunities in accordance with its strong growth vocation. This implied both the collaboration and cooperation with external partners and the internal development of new solutions. In the first case, for instance, in 2014 BBVA acquired Simple, a US-based non-bank start-up, yet providing account and banking services with mobile channels through the partnership with Bancorp – a back-end institution. Afterwards, BBVA managed to integrate the offering of Simple within its banking infrastructure from Bancorp's one. In 2015 instead, BBVA invested in a controlling stake in Atom, a mobile-only bank headquartered in UK. This investment in what was deemed, at the time, one of the most innovative Fintech realities in Europe, was presented by the top management as an opportunity for BBVA to be a player in the future of banking. In addition, the bank has often been participating, as an investor, in new ventures in Silicon Valley through a dedicated Venture Capital arm. With respect to internally-developed solutions instead, BBVA has intervened by organising itself around the development and nurturing of new distinctive resources and capabilities. In fact, the company has created separate organisational structures, with more flexible rules and a Silicon-Valley-like culture to foster innovative thinking. Those structures have the specific mission of improving the bank's digital proposition and addressing customer feedback to improve the experience in the use of digital solutions (CapGemini, Linkedin, EFMA, 2018).

Within its specific vision on digitality, BBVA has aimed in the last 10 years at developing a positioning based on innovativeness and differentiation, while remaining present in all the traditional segments of retail banking, corporate and investment banking. The plan formulated between 2015 and 2016 encompasses priorities across different dimensions:

- Enhanced customer experience, with renewed attention to digital customer journeys across products and services.
- Increased digital sales, as they are an incredible opportunity of growth, and developing the proper metrics to assess digital performance.
- Developing alternative business models, especially encompassing collaboration and cooperation with new Fintech players.
- Efficient capital allocation across different lines of business and different projects.
- Efficiency in execution, through the simplification of processes and activities.
- Selective hiring policy to on-board the brightest workforce, fostering innovation and the development of knowledge and distinctive competencies.

The achievement of these objectives, along with specific measures, should be supported by effective internal and external organisational practices for the bank to be successful both in the short-term and long-term through long-lasting customer relationships. In particular, BBVA deemed the development of new competences as a key driver for innovation, an enhanced proposition, and hence, value appropriation. In fact, a specific function has been created within the organisational chart of the bank. This function is in charge, among other tasks, of Data Management and Open Innovation. The current organisational structure hence supports the dual goal of continuously developing distinctive capabilities for long-term sustainability, while ensuring smooth operational efficiency in a business-as-usual setting through paying attention to the execution and performance goals.

It is within this specific business, strategic, and organisational setting, the rise of Fintech, the introduction of PSD2, and the Open Banking models, that the company also started to think about the adoption of a platform approach to pursue new revenue streams and explore innovative solutions, namely the API_Market.

4.1 BBVA-as-a-Platform: The API_Market Initiative

This initiative, launched to the wider public between 2016 and 2017, took the specific form of an API Marketplace, indeed denominated *"BBVA API_Market (https://www.bbvaapimarket.com/):*

API_Market is a global and open API platform that lets you easily access financial solutions and seamlessly implement them in your company. (…) It is a platform of financial APIs from different BBVA entities or countries. Companies or developers interested in using the APIs can sign up and test them in a Sandbox environment. (…) The platform is targeted towards companies, small businesses and developers. Anyone interested in building value-added services based on financial APIs. The aim is to establish long-term relationships of trust between BBVA and its customers. One of the primary considerations for being eligible to access the APIs in production environment is to have a professional business proposal. (…) The customer does not need to be a BBVA customer to work with our APIs. He/she only need to sign up in BBVA API_Market to access sandbox environment.

In practice, API_Market represents a platform with which different sides of users get in contact and, in particular, Fintechs and other third parties can access data and information and plug into BBVA's data and banking core services through open interfaces.

The initiative has its roots in the beginning of the 2010s. In reality, the concept of API was not new to banks at the time. Those interfaces were used most internally to ensure that different elements within the infrastructure of the bank could communicate among themselves. This interconnection was indeed a crucial element to run smoothly processes that entailed different nodes. In fact, several banks had reflected on the role and potentialities of APIs, in particular of APIs which could be opened to third parties. In the specific case of BBVA, this process took between 6 and 7 years to reach a viable proposition.

The path towards an open API platform at BBVA started first with the approaching of developers in a way that was common to many banks at the time: *Hackatons*. Actually, BBVA was trying to enrich its value proposition through apps that could communicate with its systems and be integrated in it. After successful initiatives of this kind in Madrid and Barcelona, BBVA also launched *Hackatons* in Mexico with great success.

Once approached the developers, BBVA decided to see whether it could be viable to integrate with external players easily and with high security standards, while letting third parties access the core of its banking infrastructure and data. In the case of *Hackatons*, BBVA opened one of its APIs to developers. Along with this step, BBVA used an outsourced API Manager, a system that helped in keeping APIs under control, with particular respect to security, managing the operation of APIs, interaction with the developer community, and analysing the usage of APIs. The warm liking from developers is what subsequently triggered a wider reasoning about the extent to which APIs could be opened, examining a market opportunity for an open platform.

Given the market situation, the bank started exploring how it could generate new revenue streams, and they took the decision towards a multi-sided platform in which banking and non-banking services could have been developed. Some conditions were eligible to choose this direction and they can be synthetized as follows:

- The presence of a nascent ecosystem around payments and banking services that, at the same time, could threaten a pipeline business model and could foster innovation and a renewed experience, to enhance the value proposition and, hence, profits.
- Reduction in costs of innovation through on boarding external partners to invest in products/services developed through the platform. That would have generated economies of scope in innovation around a core of highly-reusable elements for a variety of purposes.
- The possibility to increase and diversify the bank's revenue streams because banking and non-banking services are developed. These revenues come from the business side when developers and third parties leverage the BBVA platform through APIs for developing and selling their products. This offers a significant upside as it could refer to any possible sector within which a third party need to plug into a bank's data or services. This stream of revenues would be dependent on the platform usage and services sold to other financial and non-financial businesses. The second stream of revenues is from additional added-value services embedded and aggregated within the offering of BBVA which can deliver a superior customer experience.

  A practical example of those two streams of revenue would be instant loans. Those would be requested and accepted as the customer makes purchases from a third-party that is using the platform. Loans experience would be innovated and aggregated with new services. BBVA makes money on the usage of the API that connects to the loan module. In addition, BBVA can make money from the loan conceded to the customer. As a remark on the second type of revenue stream, it should be noted that, rather than on an explicit charge, it also could pass through an indirect mechanism of customer acquisition, satisfaction, and retention due to the enhanced value proposition, and a subsequent cross/up-selling of services. In this case, the only explicit charge would be the rather traditional interest rate. However, the aggregation of banking products has generated the opportunity to sell the loan and has made the customer experience more seamless, improving satisfaction and, hence, retention.

5. Conclusions

The main idea is that retail banks should leverage from the increasing power and the digital age instead of running behind them; this is the meaning from running to changing a bank business model. What customers regret from banks is that they have not yet been able to increase their capacity to interact but not only in a sense of developing new channels/accesses to banks but developing a double way communication in which according to many data a bank owns from their customers it is able to react fitting their requests. One of the main problem

related to the so-called disruptive technologies is that it is difficult to determine the best way to exploit them, which should be bank-specific because each bank holds its own positioning in the market. The issue is that if the cost benefit has to prevail over the rewarding benefits or vice versa. The idea of technology in terms of exploiting it because of low cost attitude can be a false friend to many business model, especially when they need to self-sustain themselves. This misunderstanding is visible because often bank managers think of technology in terms of convenience. However, this word can have different meaning such as the followings: advantage, suitability, advisability, but also comfort, coziness, ease, amenity, leisure or even the meaning of advantage, benefit, plus, profit and asset. In the way, we interpret and put its meaning into a value proposition the idea behind it can change dramatically. Beyond the 'stay in the game' pressures of compliance, there are the 'win the game' pressures created by time-to-market drivers that include rapid track development of new retail banking products to match competitors. Therefore, a way to stay in the game can be Open Banking, which is both a threat and an opportunity for traditional financial institutions. The threat comes from the fact that banks will no longer be able to control their interaction with their customers (Omarini, 2015). In practice, this means that instead of doing all of their banking through one or two firms, customers could have their current account with one provider and then bolt on other financial services such as an insurance, mortgage and investments through other providers, all under the user interface of their choosing. To stay ahead of the competition banks need to embrace innovation and there are a number of strategies banks can develop. Put this way, Open Banking can be considered an opportunity for banking to diversify and innovate their offering. In doing this, banks and financial institutions can work. APIs show to be the heart of Fintech revolution but the added value is that each bank or financial institution can access a lot of data sources that generate a large volume of information available and valuable to reshape their business models. Given all that above, an ingredient lies and remain important in the new financial system, that is trust (in banks, Fintechs, Techfins, regulators and users), and it is the key word around which this revolution revolves. The financial system is experiencing a new era: new business models with concepts that are transforming the financial culture: APIs, blockchain, big data, Fintech, etc. This entire new world must be regulated to avoid systemic abuse and risks. The problem is that innovation is global and fast, while regulation is local and slow. The integration between banks and Fintech on an open platform is a new model for banks to scale up innovation, because banks can leverage on the breadth of offering, achieve an interesting growth, and be back to compete in the market arena.

There are many other interesting examples of Open Banking, such as that of HSBC's - Connected Money -, which allows customers to see their accounts at up to 21 different banks in one place, also offering new services enabled by the Open Banking initiative. Another one is that of Barclays. In Italy, a medium bank group - called Gruppo Sella - has developed Fabrick, which is an open financial ecosystem that enables and fosters a fruitful exchange between players that discover, collaborate and create innovative solutions for end customers, through the API platform. Fabrick Platform is the technological backbone empowering the Fabrick ecosystem, connecting its players to enable their business models and use-cases, where traditional and new players collaborate (such as Fintechs, System Integrator, Digital Factory, etc.) with an international vision to close the gap in the Italian open banking experience.

In a few years, the difference will not be between big banks winning or Fintechs winning and *vice versa*, it will be between which banks and Fintechs invested successfully in becoming the most customer-centric and those that that did not do it.

References

Arner, D., Barberis, J., & Buckley, R. (2015). *The evolution of fintech: a new post-crisis paradigm?*

Ayadi, R., Arbak, E., & De Groen, W. (2011). *Business Models in European Banking. A pre- and post-crisis screening.* Centre for European Policy Studies.

Ayadi, R., De Groen, W., Sassi, I., Rey, H., & Aubry, O. (2015). *Banking Business Models Monitor 2015 Europe.* Centre for European Policy Studies Brussels and International Observatory on Financial Services Cooperatives, HEC Montréal.

Ayadi, R., Arbak, E., & De Groen, W. (2014). *Ayadi, R., Arbak, E., De Groen, W. P. (2014). "Banking Business Models Monitor 2014 Europe". Centre for European PoliStudies Brussels and International Observatory on Financial Services Cooperatives.* HEC Montréal.

Ayadi, R., Arbak, E., & DeGroen, W. (2012). *Regulation of European Bank and Business Models: Towards a New Paradigm.* Centre for European Policy Studies. Centre for the European Policy Studies.

BBVA. (2017). *BBVA - Corporate Information*. Retrieved from BBVA: https://www.bbva.com/en/corporate-information/

Blake, M., & Vanham, P. (2016, November 30). *5 things you need to know about fintech.* Retrieved from World Economic Forum: https://www.weforum.org/agenda/2016/04/5-things-you-need-to-know-about-fintech/

Brainard, L. (2017). Where Do Banks Fit in the Fintech Stack? Retrieved October 21, 2017, from https://www.federalreserve.gov/newsevents/speech/brainard20170428a.htm

Broeders, H., & Khanna, S. (2015, January). Strategic choices for banks in the digital age. *McKinsey Quarterly Review*. Retrieved October 21, 2017, from http://www.mckinsey.com/industries/financial-services/our-insights/strategic-choices-for-banks-in-the-digital-age

CapGemini, Linkedin, EFMA. (2018). *World Fintech Report.* Retrieved June 8, 2018, from https://www.capgemini.com/wp-content/uploads/2018/02/world-fintech-report-wftr-2018.pdf

Cernov, M., & Urbano, T. (2018, June). *Identification of EU bank business models a novel approach to classifying banks in the EU regulatory Framework.* EBA Staff Paper Series, N. 2, EBA Staff Paper.

Chen, Z., Li, Y., Wu, Y., & Luo, J. (2017). The transition from traditional banking to mobile internet finance: an organizational innovatio perspective - a comparative study of Citibank and ICBC. *Financial Innovation, 3*(12).

Chesbrough, H. W. (2003). *Open Innovation: The new imperative for creating and benefiting from technology.* Boston: Harvard Business School Press.

Chesbrough, H. W. (2006). *Open Business Models: How to Thrive in the New Innovation Landscape.* Boston: Harvard Business School Press.

Chesbrough, H. W. (2011). *Open Services Innovation: Rethinking your Business to Grow and Compete in a New Era.* San Francisco: Wiley.

Chesbrough, H. W., Vanhaverbeke, W., & West, J. (2014). *New Frontiers in Open Innovation.* Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199682461.001.0001

Chishti, S., & Barberis, J. (2016). *The Book of Fintech.* Wiley. https://doi.org/10.1002/9781119218906

Citibank. (2016). *Citi Global Perspectives & Solutions (2016) Digital Disruption. How Fintech is forcing banking to a tipping point.* Retrieved June 21, 2017, from https://www.privatebank.citibank.com/home/fresh-insight/citi-gps-digital-disruption.html

Cortet, M., Rijks, T., & Nijland, S. (2016). PSD2: The digital transformation accelerator for banks. *Journal of Payments Strategy & Systems, 10*(1), 13-27.

de Jong, M., & van Dijk, M. (2015, July). Disrupting beliefs: A new approach to business-model innovation. *McKinsey Quarterly Review*. Retrieved June 17, 2018, from retrieved On June 17, https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/disrupting-beliefs-a-new-approach-to-business-model-innovation

Deutsche Bank. (2014). *Fintech – The digital (r)evolution in the financial sector.*

Dhar, V., & Stein, R. (2016). FinTech Platforms and Strategy. *MIT Sloan School Working Paper 5183-16, 5183-16*. Retrieved October 21, 2017, from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2892098

Dirk, A., & Zetzsche, R. P. (2017). *From Fintech To Techfin: The Regulatory Challenges Of Data-Driven Financial Institutions.* EBI Working Paper Series.

Drucker, P. F. (1954). *The Practice of Management.* New York: Harper&Row.

ECB - European Central Bank. (2016). *Joint Supervisory Teams. European Central Bank - Banking Supervision.* European Central Bank. Retrieved December 21, 2016, from https://www.bankingsupervision.europa.eu/banking/approach/jst/html/index.en.html

Enkel, E., Gassmann, O., & Chesbrough, H. W. (2009). Open R&D and open innovation: exploring the phenomenon. *R&D Management, 39*(4), 311-316. https://doi.org/10.1111/j.1467-9310.2009.00570.x

EY. (2017). *Fintech Adoption Index 2017.* Retrieved June 17, 2018, from http://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/$FILE/ey-fintech-adoption-index-2017.pdf

EY. (2017a). *Fintech Adoption Index 2017.* Retrieved June 27, 2018, from https://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/%24FILE/ey-fintech-adoptio

n-index-2017.pdf

Finextra & CA Technologies. (2016). *Preparing for PSD2: exploring the business and technology implications of the new payment services directive.*

FSI, F. S. (2017, June 27). *Financial Stability Implications from FinTech, Supervisory and Regulatory Issues that Merit Authorities' Attention.*

Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. *Research Policy, 43*(7), 1239-1249. https://doi.org/10.1016/j.respol.2014.03.006

Gawer, A., & Cusumano, M. A. (2014). Industry Platforms and Ecosystem Innovation. *Journal of Product Innovation Management, 31*(3), 417-433. https://doi.org/10.1111/jpim.12105

Investopedia. (2017). Retrieved from Investopedia: https://www.investopedia.com/terms/f/fintech.asp

Itami, H., & Nishino, K. (2010). Killing Two Birds with One Stone – Profit for Now and Learning for the Future. *Long Range Planning, 43*, 364-369. https://doi.org/10.1016/j.lrp.2009.07.007

KPMG. (2017). *Value of Fintech.* Retrieved June 17, 2018, from https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2017/10/value-of-fintech.pdf

KPMG. (2017). *Value of Fintech.* Retrieved June 27, 2018, from https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2017/10/value-of-fintech.pdf

Magretta, J. (2002). Why Business Models Matter. *Harvard Business Review, 80*(5), 86-92.

Mas-Colell, A. M. (1995). *Microeconomic Theory.* New York: Oxford University Press.

Mention, A. L., & Salampasis, D. G. (2018). Open innovation in financial institutions: individual and organisational considerations. *International Journal Transitions and Innovation Systems, 6*(1), 62-87. https://doi.org/10.1504/IJTIS.2018.090781

Microsoft Services. (2017). *The Future Banking Ecosystem. Evolution and Innovation in the Digital Era.* Retrieved June 15, 2018, from https://info.microsoft.com/rs/157-GQE-382/images/Microsoft_The_Future_Banking_Ecosystem.pdf

Omarini, A. (2014). Strategy and Business Models in Retail Banking: Why Should They Matter Also to Supervisors? *Journal of Financial Transformation, 39*, 47-58.

Omarini, A. (2015). *Retail Banking. Business Transformation and Competitive Strategies for the Future.* London: Palgrave MacMillan Publishers.

Omarini, A. (2016). Retail banking: a business in deep transformation. *Arabian Journal of Business and Management Review, 6*(4).

Omarini, A. (2018). The Retail Bank of Tomorrow: A Platform for Interactions and Financial Services. Conceptual and Managerial Challenges. *Research in Economics and Management (REM), 3*(2), 110-133. Retrieved from http://www.scholink.org/ojs/index.php/rem/article/view/1343

Osterwalder, A. (2013, May 6). *A Better Way to Think About Your Business Model.* Retrieved from Harvard Business Review: https://hbr.org/2013/05/a-better-way-to-think-about-yo

Pagani, M. (2013). Digital business strategy and value creation: framing the dynamic cycle of control points. *MIS Quarterly, 37*(2), 617-632. https://doi.org/10.25300/MISQ/2013/37.2.13

PwC. (2016). *What is Fintech?* Retrieved June 2018, from https://www.pwc.com/us/en/financial-services/publications/viewpoints/assets/pwc-fsi-what-is-fintech.pdf

PwC. (2016). *What is Fintech?* Retrieved December 21, 2017, from https://www.pwc.com/us/en/financial-services/publications/viewpoints/assets/pwc-fsi-what-is-fintech.pdf

PWC. (2017). *Global Fintech Report 2017.*

PwC. (2017a). *Global Fintech Report 2017.*

PwC. (2017b). *Waiting until the Eleventh Hour. European banks reaction to PSD2.* Retrieved January 3, 2018, from https://www.pwc.com/gx/en/financial-services/assets/pdf/waiting-until-the-eleventh-hour.pdf

Schueffel, P., & Vadana, I. (2015). Open Innovation in the Financial Services Sector - A. *Journal of Innovation Management, 3*(1), 25-48. Retrieved June 27, 2018, from https://www.researchgate.net/publication/275027680_Open_Innovation_in_the_Financial_Services_Sector_

-_A_Global_Literature_Review?enrichId=rgreq-20faaa7a608e929520cbd84b0ac73317-XXX&enrichSource=Y292ZXJQYWdlOzI3NTAyNzY4MDtBUzoyMTg3ODk0NTE5NjQ0MTZAMTQyOTE3N

Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning, 43*, 172-194. https://doi.org/10.1016/j.lrp.2009.07.003

Yin, R. K. (2003a). *Case Study Research: Design and Methods.* Thousand Oaks: Sage Publications.

Zachariadis, M., & Ozcan, P. (2017). *The API economy and digital transformation in financial services: the case of open banking.* SWIFT Institute.

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Leadership Behaviour, Entrepreneurial Orientation and Organisational Performance in Malaysian Small and Medium Enterprises

Azizah Hashim[1], Che Mohd Zulkifli Che Omar[2], Mohd Sahandri Gani Hamzah[3], Azmi Umar[1]

[1]Faculty of Management & Economics, Sultan Idris Education University (UPSI), Malaysia

[2]Associate Professor, Faculty of Management & Economics, Sultan Idris Education University (UPSI), Malaysia

[3]Professor, Chancellor Office of Academic & International, Sultan Idris Education University (UPSI), Malaysia

Correspondence: Azizah Hashim, Faculty of Management & Economics, Sultan Idris Education University (UPSI) 35900 Tanjung Malim, Perak, Malaysia.

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Abstract

The purpose of this paper is to discuss the organizational performance and entrepreneurial orientation of Malaysian Small and Medium Enterprises (SMEs). Literature has shown that leadership and entrepreneurial orientation are important for organizational performance but still inadequate. Thus, this investigation hopes to close this gap in the literature and contribute to a new understanding of relationships between leadership and organizational performance, and entrepreneurial orientation served as a mediator. This study comprised a sample of owners or managers in the manufacturing and service sectors of SMEs located in Kuala Lumpur and Selangor, as their largest representation of SME establishments and significant contributions to Malaysia economy. A cross-sectional research design was used to examine the relationships between leadership behavior, entrepreneurial orientation and organizational performance among SMEs. The respondent's lists were sought from the SME Corp. Malaysia at http://www.smecorp.gov.my and http://www.smeinfo.com.my. Data were gathered based on a mailed questionnaire and personal administered questionnaires. The findings indicate that entrepreneurial orientation acted as a partial mediator in the relationship between leadership behavior and organizational performance. Transformational leadership and transactional leadership were found to have a significant relationship with entrepreneurial orientation and organizational performance of SMEs. An important implication of this research indicated that both transformational and transactional leadership behavior positively increased the individual outcome and lead to higher organizational performance.

Keywords: leadership behavior, transformational leadership, transactional leadership, entrepreneurial orientation, organizational performance, SMEs

1. Introduction

In Malaysia, SMEs represent as the backbone of the local economies and SMEs be recognized as engines of economic growth behind industrial development (Amin et al., 2016; Abdullah & Rosli, 2016). SMEs accounted for 99.2% of all business establishments, contributed 32% of real gross domestic product (GDP) and 19% of export (Zuraidah & Gerry, 2010; National SME Development Council, 2010). The characteristics and determinants of the performance of SMEs have been a large discussion among scholars (Arham, 2015; McKelvie & Wiklund, 2010). SMEs facing few weaknesses such as insufficient workers, insufficient financial support, lack of educational background and less of expertise and professional management team (Amin et al., 2016; Samad, 2007; Saleh & Ndubisi, 2006; Abu Bakar et al., 2006; Mohd Aris., 2006). To enhance the development of SMEs, full efforts are continuously being made seriously by governments (Al-Dhaafri, Al-Swidi & Yusoff, 2016; Dzomonda et al., 2017; Hayat et al., 2011)

This objective of this research is to examine the impact of SMEs performance in Malaysia from the context of leadership behavior and the entrepreneurial orientation (EO). Leadership and EO are already known as crucial components for organization achievement (Arshad et al., 2016; Gul et al., 2012; Hannay, 2009; Wang, 2008; Yang, 2008). Strategic direction to the workers will motivate them to achieve organizational performances (Luu, 2017).

Leadership is vital to enhance organization achievement as leaders are responsible for strategic firms' goal (Yang,

2016). Hence, top management is accountable to the stakeholders in producing and creating the best products and services through sufficient resources allocated by companies (Madanchian et al., 2016; Ahmad et al., 2014). On the other hand, the organization needs to give full attention to evolving entrepreneurial orientation which portrayed them differently from their rivals in the market.

Leadership and EO are crucial factors that are needed to be upgraded and strengthen the organizational performance and to stimulate entrepreneurs of SMEs for better equip and well prepared to be more competitive in order to transform Malaysia to become a high – income developed nation with a knowledge-based economy by the year 2020.

2. Problem Statement

SMEs play a focal role in the economy and social landscape of Malaysia and are viewed as critical pillars of the country (Radam, Abu & Abdullah, 2008). However, SMEs in Malaysia still faces difficulty such as lack of resources, inadequate knowledge and insufficient of managerial skills (Lim, 2016; Ahmad & Seet, 2009; Alkahtani, Abu-Jarad, Sulaiman & Nikbin, 2011; Hoq, Ha & Said, 2009; Saleh & Ndubisi, 2006). The lack of managerial skills was one of major limitation and reduced the ability of SMEs to improve their productivity and performance of the firm (Abe et al., 2012; SME Corporation Malaysia, 2014). Malaysian SMEs contributed about 32% (NSDC, 2010) only, however, Singapore and Thailand recorded much higher, 49% and 38% respectively. Therefore, there was a challenge for the leaders of SMEs have to equip with a number of expertise such as management and leadership skills to improve the performance and mitigate setbacks and failure.

Even though researchers and practitioners have a great discussion and interest in the topics of leadership and EO (Arshad et al., 2016; As-Sadeq & Khoury, 2006; Ling et al., 2008; Lo et al., 2010, James et al., 2016; Moreno & Casillas, 2008; Rauch et al., 2009; Wiklund, 1999), the arguments have to be liable in considering closely whether there is a relationship between leadership and EO on the one hand and organisational performance on the other hand. A very few studies have been focused and conducted to investigate the relationship between the three variables simultaneously (Arham, 2014; Yang, 2008; Todorovic & Schlosser, 2007). Thus, the investigation of an entrepreneurial orientation as a mediator in the leadership-performance relationship will contribute to a new understanding of relationships between leadership and organizational performance of SMEs in Malaysia.

Previous studies found that SMEs in Malaysia still lack or limited understanding of leadership (Rahim et al., 2016: Abdul Aziz et al., 2013; Mohd Sam et al., 2012; Hashim et al., 2012). Thus, this investigation of the forms of leadership behavior in SMEs in Malaysia hopes to close this gap in the literature on SMEs.

3. Literature Review and Hypotheses Development

Transformational leadership and Organisational Performance

Previous researchers have displayed the existing of a strong correlation between transformational leadership and organizational performance. This strong correlation was proved by Avolio (1999) and Bass (1998) with numerous different measures. However, Dvir et al. (2002) suggested a better achievement from followers comes from transformational leaders than other types of leadership. Ramey (2002) agreed that a positive and moderate correlation was found between transformational leadership and the job satisfaction. A study in Pakistan found a positive correlation between the transformational leadership style and SMEs performance and a weak positive correlation between transactional leadership style and SMEs performance (Naeem & Tayyeb, 2011). Zumitzavani and Udchachone (2014) claimed that a transformational leadership style has a positive relationship with organizational performance in the hospitality industry in Thailand.

H1: Transformational leadership has a significant effect on Organisational Performance.

Transformational Leadership and Entrepreneurial Orientation

Past studies reveal that innovativeness, risk-taking, and proactiveness are the main traits of entrepreneurial or intrapreneurial (Miller, 1983; Shirokova et al., 2016). Moriano et al., 2014 urged that the managers who possess a high level of transformational leadership traits led to an increase of the employees' level of intrapreneurial activities. Politis and Harkiolakis (2008) stated that transformational leadership is strongly positively related to the innovation dimension of entrepreneurial orientation compared to transactional leadership. In addition, it was found that transformational and transactional leadership equally affected the risk-taking and proactiveness dimensions.

H2: Transformational leadership has a significant effect on the entrepreneurial orientation

Transactional Leadership and Organisational Performance

Amirul and Daud (2012) examined the relationship between transactional leadership and leadership outcomes in 325 companies in the context of SMEs in Malaysia. The result stated that transactional leadership is positively related to organizational performance. Arham (2014) also found that transactional leadership has a positive relationship with organizational outcomes in Malaysian SMEs manufacturing and service sector. This is in line with a study done by Abdul Aziz et al. (2013) urged a significant relationship between transactional leadership and performance in the service sector.

H3: Transactional leadership has a significant effect on organizational performance

Transactional Leadership and Entrepreneurial Orientation

Kwasi (2015) remarks that transactional leaders are more task-or goal-oriented than people-oriented. On that note, transactional leaders define objectives and set expectations from each employee prior to the execution of the task (Martin, 2015). Businesses in this 21st century are exposed to a plethora of challenges such as stiff competition, short product life cycles among others all emanating from globalization. According to Panagopoulos and Avlonitis (2010), leadership style is a crucial requirement if a firm attempted to adopt an EO strategy successfully. A study by Nahavandi (2006) indicated that a transactional leader creates an EO atmosphere in the organization through the concept of exchange.

H4: Transactional leadership has a significant effect on entrepreneurial orientation

Entrepreneurial Orientation and Organisational Performance

The measurement of EO commonly used by scholars was developed by Covin and Slevin (1989), based on the research done by Khandwalla (1977) and Miller (1983). This scale, which consists of three dimensions, innovation, proactiveness, and risk-taking. The measurement of EO was adopted by numerous studies (Becherer & Maurer, 1997; Dickson & Weaver, 1997; Naman & Slevin, 1993; Steensma et al., 2000). Lumpkin and Dess (1996) added another two dimensions; competitive aggressiveness and autonomy, in the existing of measurement of EO. However, this study used three dimensions of entrepreneurial orientations; proactiveness, innovativeness, and risk-taking based on Covin and Slevin (1989). Lumpkin and Dess (2001) demonstrated that the dimensions of EO led to market growth. Past studies at empirical level have shown a positive relationship between entrepreneurial orientation and firm performance, e.g. a longitudinal study has found that entrepreneurial orientation to have a long-term effect on growth and financial performance of small businesses (Wiklund & Sheperd, 2003).

Therefore, it is suggested that firms may gain benefit from adopting an EO. Such firms innovate frequently while taking risks in their product market strategies (Miller & Friesen, 1978). Efforts to anticipate demand and aggressively position new product/service offerings often result in a strong performance (Ireland et al., 2003). Hence, the study of EO especially on Covin and Slevin (1989) dimensions, needs more studies to prove there is a relationship between EO and business performances.

H5: Entrepreneurial orientation has a significant effect on organisational performance

Entrepreneurial Orientation, Transformational Leadership and Organizational Performance

Transformational leaders discover and expand shared values and empower others (Owen et al., 2004; Ozaralli, 2003), influenced subordinates to produce better quality and quantity of work, and being a creative problem solver of employees (Limsila & Ogunlana, 2008). This is a procedure for improving and changing employees by increasing motivation, building commitment, and empowering them to achieve organizational performance (Yulk, 2010). In other words, transformational leaders have the ability to boost the commitment of employees through shared values and shared vision (Sadler, 2003). Transformational leaders change things by crafting the vision and by influencing followers to buy into the vision (Lussier & Achua, 2007). In addition, transformational leaders focus on the organization and direct follower commitment toward organizational goals.

Studied by Arham (2014) involved 390 respondents from service and manufacturing SMEs in Malaysia also found that transformational leadership has a significant relationship with EO that related to growth and profitability of the organization. Hassim et al. (2011) proposed that appropriate behavior of the leaders is an important factor of a firm's strategy for enhancing its entrepreneurial stance.

H6: Entrepreneurial orientation has mediates the relationship between transformational leadership and organizational performance

Entrepreneurial Orientation, Transactional Leadership and Organizational Performance.

Transactional leadership suggested that a leader has to observe behavior which seeks to supervise subordinates to assure strength in the workplace and to assure the management procedures are followed by subordinates (Bass,

1985). There are mixed findings on leadership behavior and EO in previous research. Yang (2008) stated that transactional leadership has a small positive relationship with EO. Contrary, a study was done by Eyal and Kark (2004) found that there is no significant relationship between transactional leadership and EO. They declared that managers or leaders practice or adopt transactional leadership behavior are less inclined to be more proactiveness or innovativeness.

Meanwhile, Jung et al. (2008) insisted that leaders have a direct influence on organizational performance through their characteristics and behavior and indirect influence through the strategic choices they make. EO is essential elements as a firm's strategic choice that captures the specific entrepreneurial aspects of decision-making styles, methods and practices (Wiklund & Shepherd, 2005) and it is a key to enhance organizational performance (Covin & Slevin, 1989; Lumpkin & Dess, 1996). In the context of SMEs in Malaysia, Arham et al. (2015) demonstrated that transactional leadership has a significant relationship to EO, and EO has a direct significant relationship to growth and profitability in manufacturing and services sector.

H7: Entrepreneurial orientation has mediates the relationship between transactional leadership and organizational performance.

4. Methodology

A cross-sectional research design was employed in this study where a data was collected at a given point of time (Sekaran & Bougie, 2013; Kumar et al., 2013). A quantitative research approach was applied which commonly used in social sciences studies (Keng et al., 2013; Shukri & Mahmood, 2014). Manufacturing and services sector located in Kuala Lumpur and Selangor were considered as a population of this study. Simple random sampling was employed and the sample size of 384 is enough for population up to 1 million were used (Sekaran & Bougie, 2010). The unit of analysis for this study is at the organizational level which involved the entire SMEs owners or managers. The data collected were analyzed and interpreted using the Statistical Package for Social Science (SPSS) to analyze the demographic profiles of the respondents meanwhile, and Structural Equation Modelling (SEM)-AMOS 22.0 software package to test the inter-relationships between constructs of the hypothesized model.

Measurement

All variables were measured using 10 points Likert scale ranging from 1 (Strongly Disagree) to 10 (Strongly Agree) because having more scale points able to reduce skewness, and has the smallest kurtosis and close to normal. (Leung, 2011). Section 1, contains the measurements for leadership behavior that were adopted from the Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio (2004). The researchers have obtained the questionnaire from Yogeswaran (2015) with a permission from Mind Garden to use the MLQ Leader 5X short form that consists of 45 items. However, only 32 items representing transformational and transactional leadership were included in the questionnaire.

Section 2, measured the EO construct which in this study comprises the initial factors developed by Miller (1983); innovativeness, pro activeness and risk-taking. The measurement of these factors was adopted from Covin and Slevin (1989) and Wang (2008). The EO scale that consists of these three factors is the most widely used measure of EO in entrepreneurship literature (Runyan et al., 2012). Four items measured innovativeness, four items measure proactiveness, and three items measure risk-taking. Section 3 measures the organizational performance construct through growth and profitability, which was adopted from Matzler et al. (2008), Tan (2007), and Arham (2014). Section 4, asked for demographic information and business background of the respondents.

Global Fitness of Indexes

The global fitness index can be determined by the absolute, incremental, and parsimonious fit; factor loading can be assessed by the value of standardized estimates, and construct correlations was identified by the value of standardized correlations. The recommended value for the factor loadings is 0.60 (Hair et al., 2010; Awang, 2015; Ali et al., 2018). Meanwhile, the recommended value for the construct reliability is 0.70 (Hair et al. 2010; Nunally & Bernstein, 1994).

Hair, Babin & Barry (2017) suggested the study should report at least one index from the category of Absolute Fit, Incremental Fit, and Parsimonious Fit in order to validate construct validity. From Table 1, all fitness indexes have achieved the required level. Thus the measurement model has achieved the construct validity (Awang, 2015).

Table 1. Global Fitness of Indexes

Name of category	Name of index	Index value	Comments
Absolute fit	RMSEA	0.032	The required level is achieved
Incremental fit	CFI	0.966	The required level is achieved
	TLI	0.964	The required level is achieved
	IFI	0.966	The required level is achieved
Parsimonious fit	Chisq/df	1.403	The required level is achieved

5. Result

In this study, a total of 1,700 questionnaires were distributed to the respondents via postal mail and they were given two months to complete and return the questionnaires to the researcher. From the questionnaires distributed, only 435 (25.58%) were received and 401 (23.58%) set of questionnaires are used for further analysis. The 34 questionnaires were not used because they were incomplete. The profiles of the respondents based on gender, age, race, industry, level of education, the tenure of business, a total of employees and total of sales turnover were illustrated in Table 2.

Table 2. Profiles of Respondents

		Frequency	*Percent*
Industry	Manufacturing	146	36.4
	Service & Other Sectors	224	55.9
Gender	Male	218	54.4
	Female	183	45.6
Education Level	Secondary Education	30	7.5
	Certificate/Diploma	37	9.2
	Degree	232	57.9
	Master	60	15.0
	PhD/Doctorate	39	9.7

Pooled Confirmatory Factor Analysis (CFA)

The pooled CFA is regarded as the method of choice when assessing the measurement model because it can avoid the identification problem if construct contains less than four items per construct. Apart from that, the demonstration results from pooled CFA is seemed more comprehensive than the other ones since it considered all constructs in one model (Kashif et al., 2015; Awang, Afthanorhan & Asri., 2015). Figure 1 below, shows the results of factor loadings, construct correlations and fitness indexes. By inspecting the results of fitness indexes, all fitness indexes are satisfied since the parsimonious fit (Chisq/df = 1.378 < 3.0); absolute fit (RMSEA = 0.031 < 0.08); and incremental fit (CFI = 0.967, IFI = 0.967, and TLI = 0.965 > 0.90). The factor loading also was satisfied since its value is greater than the recommended value of 0.6. However, only one item (JJ8) from transformational leadership was detected carried poor factor loading (0.43).

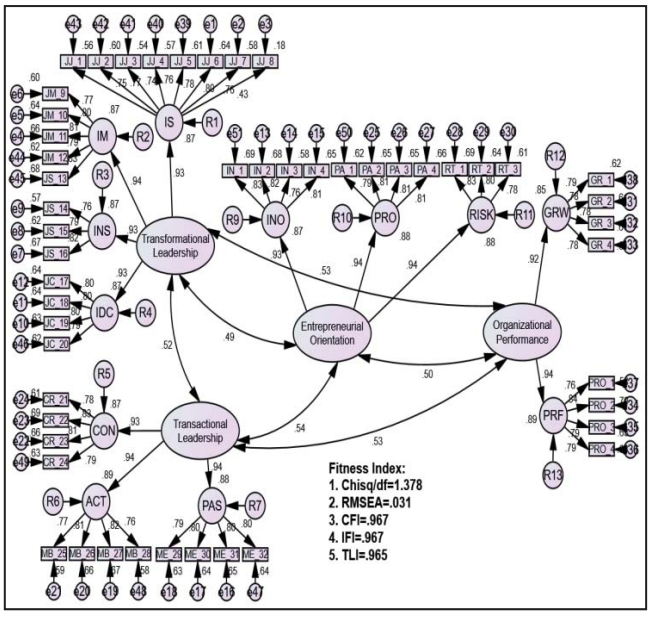

Figure 1. First Model

Reliability and Validity

In terms of construct reliability and validity, this model was determined by the Composite Reliability (CR) and Average Variance Extracted (AVE) as shown in Table 3. The Composite Reliability (CR) and Average Variance Extracted (AVE) are satisfied in that above 0.70 and 0.50 respectively (Nunnally & Bernstein, 1994; Lowry & Gaskin, 2014)

Table 3. Composite Reliability and Average Variance Extracted Results

	CR	AVE
Transformational Leadership	0.964	0.870
IS	0.899	0.614
IM	0.888	0.614
INS	0.805	0.580
IDC	0.856	0.597
Transactional Leadership	0.955	0.877
CON	0.865	0.616
ACT	0.854	0.594
PAS	0.862	0.610
Entrepreneurial Orientation	0.955	0.877
INO	0.866	0.619
PRO	0.869	0.624
RISK	0.819	0.601
Organizational Performance	0.928	0.865
GRW	0.847	0.581
PRF	0.864	0.613

Note. IS=Idealised Stimulation, IM = Idealised Motivation, INS = Idealised Influence, IDC = Individual Consideration, CON = Contingent Reward, ACT=Management-by-exception active), PAS =Management-by-exception (passive), INO = Innovativeness, PR0 = Proactiveness, RISK= Risk Taking, GRW=Growth, PRF = Profitability

Discriminant Validity

Based on Table 4, it is observed that the correlation between all constructs is less than 0.85 (Hair et al. 2010; Kline, 2015). Moreover, the value of AVE squared (bold value) is higher than the correlation construct in its row and column (Fornell & Larcker, 1981). Therefore, it is concluded that the discriminant validity of the model is satisfied, and all constructs remain in the model suitable for the estimation.

Table 4. Discriminant Validity Results

Construct	Transformational Leadership	Transactional Leadership	Entrepreneurial Orientation	Organizational Performance
Transformational Leadership	**0.933**			
Transactional Leadership	0.52	**0.936**		
Entrepreneurial Orientation	0.49	0.54	**0.936**	
Organizational Performance	0.53	0.53	0.50	**0.930**

Assessment of Normality

Table 5 below shows the assessment of normality distribution. The measure of skewness reflects the normality assessment for every item. The absolute value of skewness 1.0 or lower indicates the score is normally distributed (Awang, 2015). However, the absolute value of skewness below than 1.5 is still acceptable (Hair et al. 2010). Therefore, it can be concluded that the normality test is achieved. Moreover, the critical ratio of skewness is suggested valid when the value is below than 8.0. As is shown in the table, the value of the critical ratio of skewness is acceptable. Other than that, the multivariate of kurtosis also can be determined to assess the normality distribution. According to Awang (2015), the acceptable results for multivariate is under 50. In this case, multivariate of kurtosis is satisfied and suitable for the parametric method as a covariance-based Structural Equation Modelling.

Table 5. Normality Results

Variable	Min	max	skew	c.r.	kurtosis	c.r.
IN_1	2.000	8.000	-.161	-1.313	.091	.372
PA_1	2.000	8.000	-.180	-1.469	-.042	-.173
CR_24	2.000	8.000	.056	.461	-.044	-.181
MB_28	2.000	7.000	.057	.470	-.127	-.519
ME_32	2.000	8.000	.071	.579	.050	.203
JC_20	1.000	6.000	-.121	-.989	-.243	-.995
JS_13	2.000	8.000	-.217	-1.770	.080	.327
JM_12	1.000	8.000	.106	.863	.321	1.311
JJ_1	2.000	8.000	-.138	-1.126	.334	1.366
JJ_2	1.000	8.000	.045	.367	.237	.970
JJ_3	3.000	9.000	-.073	-.593	-.188	-.767
JJ_4	3.000	9.000	-.005	-.041	-.055	-.225
JJ_5	2.000	8.000	-.094	-.772	.008	.031
GR_1	3.000	9.000	.051	.413	.014	.057
PRO_1	2.000	7.000	-.006	-.052	-.107	-.437
PRO_4	1.000	6.000	.099	.806	-.209	-.853
PRO_3	1.000	7.000	.294	2.405	.239	.978
PRO_2	3.000	10.000	.141	1.152	.202	.825
GR_4	1.000	8.000	.069	.565	.083	.341
GR_3	1.000	8.000	.093	.761	.130	.533
GR_2	2.000	8.000	.016	.128	.976	3.988
RT_3	2.000	8.000	.167	1.368	.076	.313
RT_2	2.000	8.000	-.120	-.977	-.080	-.328
RT_1	3.000	6.000	-.201	-1.646	.114	.465
PA_4	2.000	7.000	-.062	-.510	-.190	-.775
PA_3	1.000	5.000	-.146	-1.197	-.214	-.873
PA_2	1.000	5.000	-.137	-1.119	.250	1.022
CR_21	3.000	8.000	.029	.234	-.262	-1.071
CR_22	2.000	8.000	.058	.477	.017	.069
CR_23	2.000	8.000	.156	1.276	.125	.510
MB_25	2.000	7.000	.161	1.319	-.250	-1.023
MB_26	3.000	8.000	.075	.611	-.269	-1.099
MB_27	2.000	6.000	.072	.588	.037	.150
ME_29	3.000	9.000	-.020	-.163	-.193	-.789
ME_30	4.000	9.000	.254	2.078	-.344	-1.407
ME_31	1.000	8.000	-.155	-1.268	.271	1.109
IN_4	1.000	5.000	-.109	-.889	-.038	-.157
IN_3	3.000	9.000	.000	.001	.008	.034
IN_2	2.000	7.000	-.168	-1.373	-.234	-.958
JC_17	3.000	7.000	.031	.252	.304	1.244
JC_18	2.000	8.000	-.056	-.459	.089	.362
JC_19	1.000	6.000	-.085	-.692	-.231	-.943
JS_14	1.000	7.000	-.108	-.884	.049	.199
JS_15	1.000	6.000	-.218	-1.781	.049	.198
JS_16	1.000	7.000	-.240	-1.959	.540	2.209
JM_9	1.000	7.000	-.113	-.926	-.064	-.263
JM_10	3.000	9.000	.134	1.099	-.200	-.819
JM_11	1.000	8.000	-.245	-2.003	.263	1.077
JJ_7	2.000	8.000	-.133	-1.088	.140	.573
JJ_6	2.000	8.000	-.121	-.987	.073	.299
Multivariate					*7.259*	*1.008*

Testing Mediation

Figure 2 shows the standardized results. The standardized often used in assessing the mediation effect and measurement model during performing the pooled CFA. This is because the standardized estimates help the researchers to make interpretation easily. The value from standardized estimates would fall in the range value between 0 to 1, which making it easy for comparison purpose.

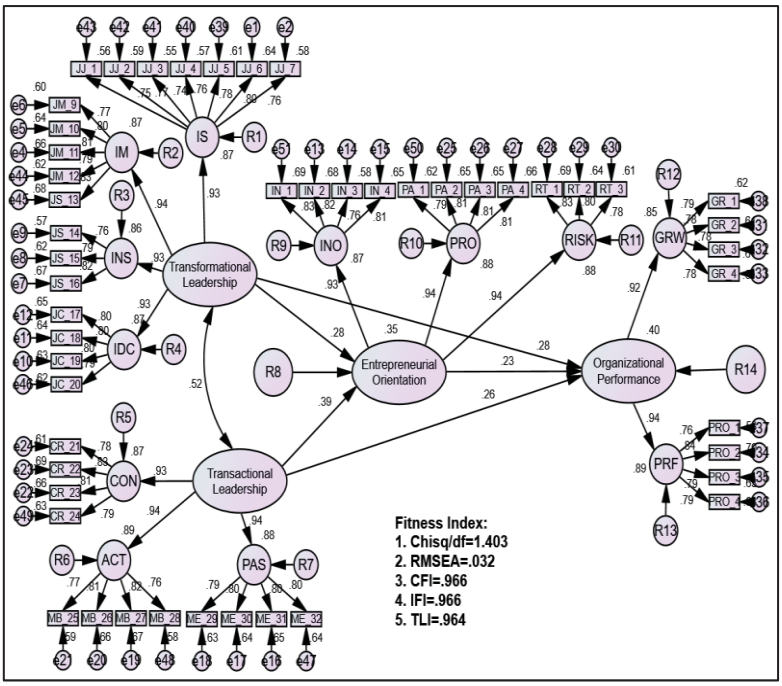

Figure 2. Standardized Estimates

Regression Weight

Table 6 shows the regression weight for each path analysis that has been proposed in the research hypotheses. From the table, it is clearly shown that all constructs have a significant contribution towards its respective endogenous constructs. By looking at the estimated value, transformational leadership has the highest positive contribution towards the organizational performance followed by transactional leadership and EO. Specifically, the interpretation for each effect as follows:

Table 6. Regression Weight

			Estimate	S.E.	C.R.	P	Result
Entrepreneurial Orientation	<---	Transformational Leadership	.288	.059	4.864	***	Significant
Entrepreneurial Orientation	<---	Transactional Leadership	.376	.059	6.430	***	Significant
Organizational Performance	<---	Entrepreneurial Orientation	.199	.054	3.678	***	Significant
Organizational Performance	<---	Transformational Leadership	.257	.055	4.686	***	Significant
Organizational Performance	<---	Transactional Leadership	.220	.054	4.057	***	Significant

Bootstrapping Approach

The use of a mediation model with bootstrap is available in AMOS software. This study used bootstrap Maximum Likelihood Estimator with 1,000 replications to produce consistent and unbiased results (Bollen & Bainter, 2014). The result for bootstrapping estimates and p-value was obtained by the application of Amos output. From the Table 7, the regression weight estimate for indirect effect is 0.063. The probability of getting a bootstrap p-value for indirect effect is 0.001. What it means is that the regression weight for EO as mediator construct is significant at 0.001 level, hence, the hypothesis (H6) that EO has mediates the relationships between Transformational Leadership and Organizational Performance is duly supported.

Table 7. The result of Direct and Indirect Effect (Transformational Leadership, Entrepreneurial Orientation, and Organizational Performance)

	Indirect Effect	Direct Effect
Bootstrapping Estimate	0.063	0.284
Bootstrapping P-Value	0.001	0.002
Result	Significant	Significant
Type of Mediation	**Partial Mediation**	

Table 8. The result of Direct and Indirect Effect (Transactional Leadership, Entrepreneurial Orientation and Organizational Performance)

	Indirect Effect	Direct Effect
Bootstrapping Estimate	0.088	0.257
Bootstrapping P-Value	0.001	0.002
Result	Significant	Significant
Type of Mediation	**Partial Mediation**	

The result for bootstrapping estimates and p-value was obtained by the application of Amos output. From the Table 8, the regression weight estimate for indirect effect is 0.088. The probability of getting a bootstrap p-value for indirect effect is 0.001. What it means is that the regression weight for EO as mediator construct is significant at 0.001 level, hence, the hypothesis (H7) that Entrepreneurial Orientation has mediates the relationships between transactional leadership and organizational performance is duly supported. Furthers, to explain more about the type of mediation, the result for direct effect is examined. The regression weight for direct effect is 0.257. The probability of getting bootstrap p-value for direct effect is 0.002 (p-value < 0.05). Therefore, it can be concluded that the type of mediation for this model is Partial Mediation because the significant effect existed in the direct effect.

The summary of hypotheses testing as shown in Table 9.

Table 9. Summary of Hypotheses Testing

RESEARCH HYPOTHESES	RESULTS
HI : Transformational leadership has a significant effect on organizational performance	Supported
H2 : Transformational leadership has a significant effect on entrepreneurial orientation	Supported
H3 : Transactional leadership has a significant effect on organizational performance	Supported
H4 : Transactional leadership has a significant effect on entrepreneurial orientation	Supported
H5 : Entrepreneurial orientation has a significant effect on organizational performance	Supported
H6 : Entrepreneurial orientation has mediates the relationships between transformational leadership and organizational performance	Supported
H7: Entrepreneurial orientation has mediates the relationships between transactional leadership and organizational performance	Supported

6. Discussion and implications

This study was to investigate the relationship between Transformational Leadership, Transactional Leadership, Entrepreneurial Orientation and Organizational Performance of SMEs in the manufacturing, and service & other sectors in Malaysia. The results revealed that more male (54.4 %) than female (45.6%) respondents participated in this study. The majority of the respondents had degree education at 57.9%, and in the age group of 31 to 40 years at 38.7%. The results indicated that respondents possessed higher education has displayed leadership behavior and tend to achieve better performance in business. This is in line with a study done by Karadag (2017) highlighted that education level of owner/managers has affected the financial performances of the business in SMEs. Matama (2016) also stated the levels of education had a significant relationship with financial performance, as more small business owners advanced in education, the more of financial worth was observed in small business firms. The small business owners who had university degrees had more financial knowledge compared to those with secondary and lower education levels (Matama, 2016). This could be attributed to the fact that owners that attained college education may able to understand and analyzing the financing documentation especially the loan contracts and the associated risks unlike the owners with secondary education and below.

The results indicated that the transformational leadership has a significant effect on the organizational performance of SMEs. This is in line with previous studies by Arham (2014), Lim (2016), and Abdul Aziz et al. (2013). Therefore, the entrepreneurs in Malaysia is suggested to practice both forms of leadership behavior and this consistent with the suggestion made by Abdul Aziz et al. (2013) and Ismail et al. (2010). They stated that the leaders that practiced both transformational and transactional leadership behavior effectively will increase positive individual outcomes and lead to increase the organizational performance.

The result of this study also found that entrepreneurial orientation also partially mediates the relationship between leadership behavior and organizational performance. This signifies that the development of entrepreneurial orientation is the important elements besides leadership behavior in order to increase the organizational performance.

Managerial Implications

The key objective of this study is to show the consequences which can benefit and practical for SMEs in the manufacturing and service industries. Effective leadership behavior of owners and top managers and entrepreneurial orientation are essential elements that affected the growth and profitability of the firms. Moreover, leaders of SME establishments in these industries are encouraged to understand the complex interaction between their leadership behavior and the level of entrepreneurial orientation practiced in their organization.

Theoretical Contributions

Modification version of the Questionnaire (MLQ) for the transformational leadership construct also indicate that the factor structure for the transformational leadership construct of the MLQ cannot be retained. Due to low factor loadings and cross-loading resulting in the removal of the individualized influenced factor (I specifically mentioned the importance of having a strong sense of purpose). Other scholars, Arham (2014) and Ozaralli (2003) had to removed factor idealized consideration from the final analysis as well.

7. Conclusion

Every study has the limitation. Among the limitations facing when conducting the study was time and situational constraints. This study relied on self-reported data from single informants which may exaggerate their assessment and judgment of their leadership behavior, firms' EO, and organizational performance.

In conclusion, the managers or owners of the business must understand the leadership behavior they display and practice has significant direct and indirect (through EO) contributions to organizational performance. This study doesn't have any intention or suggestion that leaders should practice a particular form of leadership behavior, but empirical findings indicate that when transformational leadership is practiced, it exerts stronger effects on EO and organizational outcomes than transactional leadership does.

References

Abdul, A. R. et al, (2013). The effect of leadership styles on the business performance of SMEs in Malaysia. *International Journal of Economics Business and Management Studies, 2*(2), (May, 2013), 45-52.

Abdullah & Rosli. (2016). An evaluation on determinants of SMEs performance in Malaysia. South East Asia *Journal of Contemporary Business, Economics and Law, 7*(2), (August) ISSN2289-1560.

Abe, M., Troilo, M., Juneja, J. S., & Narain, S. (2012). Policy guidebook for SME development in Asia and the Pacific, United Nations ESCAP, Bangkok.

Abu Bakar, H. et al (2016). Effect of entrepreneurial orientation, learning orientation, strategic improvisation on SMEs Performance. Proceedings of IASTEM International Conference, Jakarta, Indonesia**,** 4th-5th October 2016, ISBN: 978-93-86083-34-0.

Abu Bakar, J., Mad, C. A., & Abdul, L. R. (2006). Liberalization and globalization: A case of Naza and a lesson to SME, Paper presented at Persidangan Kebangsaan IKS (National Conference of SME) 2006, Kuala Lumpur.

Ahmad, N. H., & Seet, P. S. (2009). Dissecting behaviours associated with business failure: a qualitative study of SME owners in Malaysia and Australia. *Asian Social Science, 5*(9), 98-104. https://doi.org/10.5539/ass.v5n9p98

Al-Dhaafri, H. S., Al-Swidi, A. K., & Yusoff, R. Z. (2016). The mediating role of total quality management between the entrepreneurial orientation and the organizational performance. *The TQM Journal, 28*(1), 89-111. https://doi.org/10.1108/TQM-03-2014-0033

Alkahtani, A. H., Abu-Jarad, I., Sulaiman, M., & Nikbin, D. (2011). The impact of personality and leadership styles on leading change capability of Malaysian managers. *Australian Journal of Business and Management Research, 1*(2), 70-99.

Amin, M. et al (2016). The effect of market orientation as a mediating variable in the relationship between entrepreneurial orientation and SMEs performance. *Nankai Business Review International, 7*(1), 39-59. https://doi.org/10.1108/NBRI-08-2015-0019

Amirul, S. R., & Daud, N. (2012). A study on the relationship between leadership styles and leadership effectiveness in Malaysian GLCs. *European Journal of Business and Management, 4*(8), 193-202.

Arham, A. F. (2014). Leadership and performance. The case of Malaysian SMEs in the service sector. *International Journal of Asian Social Science, 4*(3), 343-355.

Arham, A. F. et al (2015). The effect of leadership on entrepreneurial orientation: An online survey on Malaysian SMEs. *International Journal of Latest Research in Science and Technology, 4*(5), 47-50.

Arshad, A. S. et al (2016). A Transformational Leadership and Business Performance: An Insight From Technology-based SMEs in Malaysia. BE-ci (2016).Presented at 3rd International Conference on Business and Economics, 21-23 September, 2016. https://doi.org/10.15405/epsbs.2016.11.02.5

As-Sadeq, H., & Khoury, G. (2006). Leadership styles in the Palestinian large scale industrial enterprises. *Journal of Management Development, 25*(9), 832. https://doi.org/10.1108/02621710610692043

Avolio, B. J. (1999). Full leadership development: building the vital forces in organizations, Sage, Thousand Oaks, CA.

Awang, Z. (2015). SEM made simple: A gentle approach to learning Structural Equation Modeling.

Awang, Z., Afthanorhan, A., Mohamad, M., & Asri, M. A. M. (2015). An evaluation of measurement model for medical tourism research: the confirmatory factor analysis approach. *International Journal of Tourism Policy, 6*(1), 29-45. https://doi.org/10.1504/IJTP.2015.075141

Bass, B. M. (1985). Leadership and Performance Beyond Expectations, The Free Press, New York.

Bass, B. M. (1999). 'Two decades of research and development in transformational leadership'. *European Journal of Work and Organizational Psychology, 8*(1), 9-32. https://doi.org/10.1080/135943299398410

Bollen, K. A. (1989). Structural Equations with Latent Variables, John Wiley & Sons, Inc, New York. https://doi.org/10.1002/9781118619179

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75-87. https://doi.org/10.1002/smj.4250100107

Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal, 45,* 735-744.

Dzomonda, O. et al (2016). The impact of leadership styles on the entrepreneurial orientation of Small and Medium Enterprises in South Africa.

Eyal, O., & Kark, R (2004). How do transformational leaders transform organizations? A study of the relationship between leadership and entrepreneurship. *Leadership and Policy in Schools, 3*(3), 211-235. https://doi.org/10.1080/15700760490503715

Fornell, C., & Larcker, D. (1981). Structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312

Gul, S., Ahmad, B., Rahman, S. U., Shabir, N., & Razzaq, N. (2012). Leadership styles, turnover intentions and the mediating role of organizational commitmen. *Information and Knowledge Management, 2*(7), 44-51.

Hair Jr, J. F., Babin, B. J., & Krey, N. (2017). Covariance-Based Structural Equation Modeling in the Journal of Advertising: Review and Recommendations. *Journal of Advertising,* 1-15.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). Multivariate data analysis: A global perspective (Vol. 7). Upper Saddle River, NJ: Pearson.

Hande, K. (2017). The impact of industry, firm age and education level on financial management performance in small and medium-sized enterprises (SMEs): Evidence from Turkey. *Journal of Entrepreneurship in Emerging Economies, 9*(3), 300-314. https://doi.org/10.1108/JEEE-09-2016-0037

Hannay, M. (2009). The cross-cultural leader: The application of servant leadership theory in the international setting. *Journal of International Business and Cultural Studies, 1,* 1-12.

Hashim, M. K., Ahmad, S. A., & Zakaria, M. (2012). A study on leadership styles in SMEs. Paper presented at International Conference on Islamic Leadership-2 (ICIL 2), The Royale Chulan, Kuala Lumpur, 26-27 September.

Hassim, A., Abdul, T. A., & Abu Bakar, A. (2011). The Effects of Entrepreneurial Orientation on Firm Organisational Innovation and Market Orientation towards Firm Business Performance', paper presented to

International Conference Sociality and Economic Development, Singapore.

Hayat, N., & Riaz, M. T. (2011). The Influence of the SMES Top-Level Managers Leadership Styles and Their Entrepreneurial Orientation on the Business Performance. SSRN eLibrary, Available at SSRN: http://ssrn.com/abstract=1884069.

Hilmi, M. F., Ramayah, T., Mustapha, Y., & Pawanchik, S. (2010). Product and process innovativeness: Evidence from Malaysian SMEs. *European Journal of Social Sciences, 16*(4), 547-555.

Hoq, M. Z., Ha, N. C., & Said, S. M. (2009). SMEs in the Malaysian economy. *International Journal of Marketing Studies, 1*(2), 3-17. https://doi.org/10.5539/ijms.v1n2p3

Ireland, R. D., & Hitt, M. A. (2005). Achieving and maintaining strategic competitiveness in the 21st century: The role of strategic leadership. *Academy of Management Executive, 19*(4), 65-77. https://doi.org/10.5465/ame.2005.19417908

Ismail, A., Mohamad, M. H., Mohamed, H. A. B., Rafiussin, N. M., & Zhen, K. W. P. (2010). Transformational and transactional leadership styles as a predictor of individual outcomes. *Theoretical and Applied Economics, 17*(6), 89-104.

Kashif, M., Samsi, S. Z. M., Awang, Z., & Mohamad, M. (2016). EXQ:Mmeasurement of healthcare experience quality in Malaysian settings: A contextualist perspective. *International Journal of Pharmaceutical and Healthcare Marketing, 10*(1), 27-47. https://doi.org/10.1108/IJPHM-03-2015-0011

Kheng Y. K. et al (2013).The determinant of innovative work behavior in yhe knowledge intensive business service sectors in Malaysia. *Asian Social Sciences, 9*(15), 47-59.

Kihara, P. et al (2016). Relationship between leadership styles in strategy implementation and performance of Small and Medium Manufacturing Firms in Thika Sub-County, Kenya. *International Journal of Humanities and Social Science, 6*(6), June 2016.

Kraus, S. et al (2012). Entrepreneurial orientation and the business performance of SMEs: A quantitative study from the Netherlands. *Rev Management Science*, *6,* 161-182. https://doi.org/10.1007/s11846-011-0062-9

Kwasi, D. (2015). Resillent leadership: A transformational-transactional leadership mix. *Journal of Glbal Responsibility, 6*(1), 99-122. https://doi.org/10.1108/JGR-07-2014-0026

Lawal, A. A., Ajonbadi, H. A., & Otokiti, B. O. (2014). Leadership and organisational performance in the Nigeria Small and Medium Enterprises (SMEs). *American Journal of Business, Economics and Management, 2*(5), 121-127.

Leung, S. O. (2011). A Comparison of Psychometric Properties and Normality in 4-, 5-, 6-, and 11-Point Likert Scales. *Journal of Social Service Research, 37,* 412-421. https://doi.org/10.1080/01488376.2011.580697

Lim, C. S. (2016). An investigation of leadership styles and leadership outcomes of Malaysian managers working in the wholesale subsector of the distributive trade sector. DBA thesis, Southern Cross University, Lismore, NSW.

Limsila, K., & Ogunlana, S. O. (2008) Performance and Leadership Outcome Correlates of Leadership Style And subordinate Commitment. Engineering, *Construction and Architectural Management, 15,* 164-184. https://doi.org/10.1108/09699980810852682

Ling, Y., Simsek, Z., Lubatkin, M. H., & Veiga, J. F. (2008). Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEO-TMT interface. *Academy of Management Journal, 51*(3), 557-576. https://doi.org/10.5465/amj.2008.32626023

Lo, M. C., Ramayah, T., Hii, W. M., & Songan, P. (2010). The relationship between leadership styles and organizational commitment in Malaysia: role of leadermember exchange. *Asia Pacific Business Review, 16*(1/2), 79103. https://doi.org/10.1080/13602380903355676

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation Construct and linking it to performance. *The Academy of Management Review, 21*(1), 135-72. Lumpkin. https://doi.org/10.5465/amr.1996.9602161568

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business.* https://doi.org/10.1016/S0883-9026(00)00048-3

Lussier, R. N., & Achua, C. F. (2007). Leadership practices inventory: Facilitator'sGuide. 3rd ed. San Francisco.

Luu, T. T. (2017). Ambidextrous leadership, entrepreneurial orientation and operational performance. Organisational social capital as a moderator. *Leadership and Organisation Development Journal, 38*(2), 229-252. https://doi.org/10.1108/LODJ-09-2015-0191

Madanchian, M. et al (2016). The relationship between ethical leadership, leadership effectiveness and organizational performance: A review of literature in SMEs context. *European Business & Management, 2*(2), 17-21.

Martin, J. (2015). Transformational and Transactional Leadership: An Exploration of Gender, Experience, and Institution Type. *Portal Libraries & the Academy, 15*, 331-351. https://doi.org/10.1353/pla.2015.0015

Matzler, K., Schwarz, E., Deutinger, N., & Harms, R. (2008). 'elationship between transformational leadership, product innovation and performance in SMEs. *Journal of Small Business and Entrepreneurship, 21*(2), 139-152. https://doi.org/10.1080/08276331.2008.10593418

McKelvie, A., & Wiklund, J. (2010). Advancing firm growth research: A focus on growth mode instead of growth rate. *Entrepreneurship Theory and Practice, 34*(2), 261-288. https://doi.org/10.1111/j.1540-6520.2010.00375.x

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science, 29*(7), 770-791. https://doi.org/10.1287/mnsc.29.7.770

Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal, 3*(1), 1-25. https://doi.org/10.1002/smj.4250030102

Mohamed, E. E. et al (2017). Relationship of Spirituality Leadership Style and SMEs Performance in Halal Supply Chain. *International Journal of Supply Chain Management.* IJSCM, ISSN: 2050-7399.

Mohd, A. N. (2007). SMEs: Building blocks for economic growth. *Journal of the Department of Statistics Malaysia, 1,* 1-13.

Mohd, S. M. F., Tahir, M. N. H., & Abu, B. K. (2012). 'Owner-manager of SMEs in IT sector: Leadership and company performance'. *International Journal of Business and Social Science, 3*(14), 195-205

Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: A causal mode'. *Entrepreneurship Theory and Practice, 32*(3), 507-528. https://doi.org/10.1111/j.1540-6520.2008.00238.x

Muhammad, S. B., & Rosli, M. (2014). Linking Transformational Leadership and Corporate Entrepreneurship to Performance in the Public Higher Education Institutions in Malaysia. *Advances in Management and Applied Economics, SCIENPRESS Ltd, 4*(3), 1-8.

Naeem, H., & Tayyeb, M. R. (2011). The Influence of the SMES Top-Level Managers. Leadership Styles and Their Entrepreneurial Orientation on the Business Performance. https://doi.org/10.2139/ssrn.1884069

Nahavandi, A. (2006). The art and science of leadership ((4th ed). Upper Saddle River, NJ: Pearson Education, Inc.

Naman and Slevin (1993). Entrepreneurship and the Concept of Fit: A Model and Empirical Tests. *Strategic Management Journal, 14*(2), 137-153. https://doi.org/10.1002/smj.4250140205

Nunnally, J. C., & Bernstein, I. H. (1994). The assessment of reliability. Psychometric theory, 3(1), 248-292. NSDC 2008, SME Annual Report 2008: Rising to Meet Global Challenges, National SME Development Council, Kuala Lumpur.

Ozaralli, N. (2003).Effects of transformational leadership on empowerment and team effectiveness. *Leadership & Organization Development Journal, 24*(6), 335-344. https://doi.org/10.1108/01437730310494301

Panagopoulos, N. G., & Avlonitis, G. J. (2010). Performance implications of sales strategy: the moderating effects of leadership and environment. *International Journal of Research in Marketing, 27*(1), 46-57. https://doi.org/10.1016/j.ijresmar.2009.11.001

Radam, A., Abu, M. L., & Abdullah, A. M. (2008). Technical efficiency of small and medium enterprise in Malaysia: a stochastic frontier production model. *International Journal of Economics and Management, 2*(2), 395-408.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice, 33*(3), 76187. https://doi.org/10.1111/j.1540-6520.2009.00308.x

Rodríguez-Gutiérrez, M. J. et al (2013), Entrepreneurial orientation in small firms – values-attitudes-behavior

approach. *International Journal of Entrepreneurial Behaviour & Research, 19*(6), 611-632. https://doi.org/10.1108/IJEBR-10-2012-0106

Runyan, R. C., Ge, B., Dong, B., & Swinney, J. L. (2012). Entrepreneurial orientation in cross-cultural research: Assessing measurement invariance in the construct. *Entrepreneurship Theory and Practice, July,* 819-836. https://doi.org/10.1111/j.1540-6520.2010.00436.x

Saleh, A. S., & Ndubisi, N. O. (2006). An evaluation of SME development in Malaysia. *International Review of Business Research Papers, 2*(1), 1-14.

Samad, N. A. (2007). Positioning Malaysian SMEs in the global. Paper presented at Persidangan Kebangsaan IKS (National Conference of SME) 2007 Kota Kinabalu.

Sekaran, U., & Bougie, R. (2010) Research Methods for Business: A Skill Building Approach, 5th edn, John Wiley &Sons, United Kingdom.

Sekaran, U., & Bougie, R. (2013) Research Methods for Business—A Skill Building Approach. 6th Edition, John Wiley and Sons, West Sussex.

Steensma, H. K., Marino, L., & Weaver, K. M. (2000). The influence of national culture on the formation of technology alliances by entrepreneurial firms. *Academy of Management Journal, 43*(5), 951.

Todorovic, W., & Schlosser, F. K. (2007). An entrepreneur and a leader. A framework conceptualizing the influence of leadership style on a firm's entrepreneurial orientation - performance relationship. *Journal of Small Business and Entrepreneurship, 20*(3), 289-308. https://doi.org/10.1080/08276331.2007.10593401

Wang, C. L. (2008).'Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice, 32*(4), 635-657. https://doi.org/10.1111/j.1540-6520.2008.00246.x

Wiklund, J. (1999). The sustainability of the entrepreneurial orientation--performance relationship. *Entrepreneurship: Theory & Practice, 24*(1), 39-50. https://doi.org/10.1177/104225879902400103

Wiklund, J., & Shepherd, D (2005). Entrepreneurial orientation and small business performance: A configurational approach'. *Journal of Business Venturing, 20*(1), 71-91. https://doi.org/10.1016/j.jbusvent.2004.01.001

Yang, C. W. (2008). The relationships among leadership styles, entrepreneurial orientation, and business performance'. *Managing Global Transitions, 6,* 257.

Yogeswaran (2015). Theses Pengaruh Gaya Kepimpinan, Kompetensi Pengurusan dan Orientasi Keusahawanan Terhadap Prestasi Perniagaan Kecil dan Sederhana (PKS) Usahawan India.

Yulk, G. (2010). Leadership in Organizations. 7th edn, Prentice-hall, New Jersey.

Zumitzavani, V., & Udchachone, S. (2014). The Influence of Leadership Styles on Organisational Performance Mediated by Organisational Innovation: A Case Study of the Hospitality Industry in Thailand. International Conference on Economics, Management and Development.

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Integrative Leadership Measure: Construct Development and Content Validity

Sanober Salman Shaikh[1]

[1]IBA, Unveristy of Sindh, Jamshoro, Pakistan

Correspondence: Sanober Salman Shaikh, Institute of Business Adminstration, Univeristy of Sindh, Jamshoro, Pakistan.

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Abstract

This article aims to develop framework of integrative leadership, therefore sub objectives were set to achieve the key objective of this study. The sub- objectives of this study were to form definition, initial constructs, and items and examining the content validity of newly developed integrative leadership measure. Thorough understanding and conceptualization of the various leadership styles and their scales was achieved by the review of literature. The integrative leadership definition and its framework were built through integration of six leadership types (transformational, authentic, ethical servant, spiritual and transactional). By means of synthesizing literature on six leadership styles and asseesment of content validity, initial 13 constructs, more than 100 sub- construct and 72 items of integrative leadership were obtained. In future, researchers should focus on examining construct validity and reliability of integrative leadership.

Keywords: construct, content validity, integrative leadership, measure

1. Introduction

1.1 Leadership Development and Requirement for Leadership Integration

The leadership development in the organization is getting progressively more critical and strategically imperative (Leskiw & Singh, 2007). Leadership development involves developing the leader as a whole, such as the operational, tactical, strategic and personal skills and abilities of manager, how a leader adopts the leadership characteristics and skills and uses them in an efficient manner not only to perform his assigned job duties but also beyond the assigned job duties (Abbas & Yakoob, 2009). In the current century, there is great need for social and organizational change and holistic leadership (Moxley, 2000). There is a prevalent perception and observation for crises in contemporary leadership. This perception for crunches have motivated researchers and practitioners identical to call for further advanced approaches in leadership (Woolley, Caza & Levy, 2011). Most of the leadership styles holds isolated components of leadership (Winston & Patterson, 2006). One can understand that it is not the fault or mistake of scholars, researchers, consultants and leadership practitioners that the leadership has been described in parts or with different styles and has not been described as a whole. Furthermore, Winston and Patterson stated that each researcher's world view is different and none of the existing theories of leadership are wrong. Chemers (2000) stated that research on leadership theories and research on shared thoughts and commonalities among these leadership theories provides a path for integration. Avolio (2007) recognized that research on leadership theories has reached its level of development, and considering the dynamic interaction between leaders and its followers, it requires for advancement and should move to the advance level for integration. Winston and Patterson (2006) proposed the idea of integrative leadership, they highlighted that integrative leadership is comprised of more than 90 variables, which enhances the thorough understanding to leadership researchers and practitioners about scope and breath of integrative leadership. Rost (1993) examined the leadership definitions, and concluded that leadership is based on five-dimensions. Bakker (2002) evaluated the leadership definitions and suggested that leadership is combination of two elements: process and behavior. Fernandez, Cho, and Perry (2010) mentioned that, leadership has been described by different theories, styles, approaches and models. Each leadership theory and leadership style describes the different pieces of the leadership puzzle and many efforts have been taken by researchers for synthesis and integration of leadership such as Njoronge (2015); Soria Snyder & Reinhard (2015); Ismail, Hussain & Rashid (2011); Alimo-Metcalfe & Beasley (2010); Fernandez, Cho & Perry (2010); Morse (2010); Silvia & McGuire

(2010); Real World Group (2010a); Fernandez (2004); VanWart (2003); Yukl (2002). These studies have paid great attention to the theoretical underpinnings and advancement in viable integrative leadership framework and measure. These authors have developed and tested integrated leadership frameworks and models which combines existing knowledge about leadership effectiveness. However, these studies have limited applicability as they have focused on collaborative efforts of stake holders (internal and external) for team and organizational effectiveness and developed specific measures on integrative leadership work in particular context. Moreover, previous studies have not integrated the leadership styles and did not develop integrative leadership definition and its measure as a whole of leadership. Subsequently it appears that there is a lack of suitable valid definition and measure of integrative leadership as a whole. Thus considering the work of (Winston & Patterson, 2006; Bakker, 2002; Rost, 1993) for leadership effectiveness and leadership success to deal with employee-related issues, the leadership development framework should be established as a whole. Around the globe various studies have confirmed the existence of various types of leadership, which clearly shows that leadership styles such as transactional, transformational, ethical, authentic, spiritual, and servant leadership are widely adopted in work settings and various scales are developed for these leadership styles to measure their constructs. Primarily the current study is designed to develop integrative leadership definition and its measure. There is also strong conceptual and empirical support that leadership styles (such as, transformational, transactional, servant, ethical, authentic, spiritual and paternalistic) share some common behaviors and characteristics (Oner, 2011; Toor & Ofori, 2009; Brown & Trevino, 2006; Stone, Russell & Patterson, 2004). This study develops the definition, constructs and items of integrative leadership measure by integrating leadership behaviors of the six leadership styles (transformational, authentic, ethical, servant, spiritual and transactional), and examines the content validity of integrative leadership constructs.

1.2 Literature Review

1.2.1 Leadership and Its Styles

Leadership is well-defined and conceptualized with variety of words and ways such as personality, traits, behavior, power, interaction and communication styles, role, and job relationships, and administrative work position (Yukl, 2010). Yukl (2010; 2006) defined leadership as the "process of influencing others to understand and agree about what needs to be done and how to do it, and process of facilitating individual and collective efforts to achieve shared objectives" (p. 8). Leadership is a process through which individual leader inspires, encourages and influences others to accomplish organizational goals. It is also a way through which employees' self-esteem can be encouraged and enhanced for achieving organizational goals (Javaid & Mirza, 2013, p. 3). The leadership researchers and authors have defined the leadership within different styles and definitions, no single definition of leadership appears to cover every situation. Therefore, this section explains the definitions and concepts of different leadership styles: 1) transformational leadership, 2) authentic leadership, 3) ethical leadership, 4) servant leadership, 5) spiritual leadership and 6) transactional leadership.

1) Transformational Leadership Style

Bass and Avolio (1990) promoted the ideas of Burns' (1978) and suggested the framework of transformational leadership. Transformational leaders cultivate self-interest and also transcend interest for the "group, organization, or society" (Bass, 1990a, p. 53). Bass (1990) defines transformational leadership as "it occurs when leaders broaden and elevate the interests of their employees, when they create awareness and acceptance of the purposes and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group" (p. 21). This kind of leadership is a practice and process to build the commitment of the followers through organization goals and by entrusting the followers with powers to achieve those goals (Yukl, 2010). Transformational leadership is considered leadership of morality and ethics because transformational leadership motivate their group members for team work, serve others, look beyond self- interest for the group purpose (Burns, 1978). Avolio, Waldman and Yammarino (1991) developed four major dimensions that build transformational leadership:

i. Idealized Influence

Idealized influence is interesting and charismatic aspect of transformational leadership. Under this aspect, the leader becomes a role model and is admired and respected by their followers (Bass, 1998; Bass & Avolio, 1994). As a result, followers exhibit greater level confidence and trust in their transformational leaders (Jung & Avolio, 2000; Bass, 1990). The idealized influence element in transformational leadership contains integrity in the form of moral and ethical conduct (Traccy & Hinkin, 1998; Kanungo & Mendonca, 1996). The expansion of collective vision is a fundamental dimension of the idealized influence (Jung & Avolio, 2000). A transformational leader helps their followers to look at the future, and stimulates them to align their personal interest and values with

purposes of the group and mutual interest (Jung & Avolio, 2000; Bass, 1998, 1990). Transformational leaders are whole- hearted and enthusiastic to share risk with their followers (Bass, 1998).

ii. Inspirational Motivation

Inspirational motivation denotes the degree to which leaders provide to their followers a sense of finding goals and purpose in their work and that goal and purpose develops additional goal that is directed strategy for organization (Bass, 1985). It involves communicating vision and generating high performance expectation among the followers. With inspirational motivation, leaders communicate the attractive vision to their followers. These leaders also motivate their followers by assigning work objectives and challenges (Avolio & Bass, 2002), as cited in Stone, Russell & Patterson, 2004). Transformational leaders develop spirit of the team, and show enthusiasm and optimism (Bass, 1998, p. 5). To construct relationship, the inspirational leaders build interactive communication with followers, and cultural bond is developed between the leader and member.

iii. Intellectual Stimulation

Transformational style of leaders inspires followers' "to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new way" (Avolio & Bass, 2002, p. 2); yet the transformational leaders do not publicly criticize their followers but encourage them openly. Transformational leaders ask for creative solution and ideas from their followers for a problem and thereby involve them in problem solving. According to Bass (1990), the intellectually stimulating leaders encourage their followers to try new approaches and emphasize on rationality.

iv. Individualized Consideration

Avolio and Bass (2002) mentioned that transformational leader pays individual and personal attention to his followers, centered on the individual follower's needs for achievement and growth (as cited in Stone, Russell & Patterson, 2004). Bass (1998) stated that transformational leader acts as mentor and coach, provides the followers with encouraging and supportive climate to achieve "higher levels of potential" (p. 6). They recognize and accept the different desires and needs of their followers. These leaders build and foster effective listening and two-way communication (Bass, 1998). The leaders delegate task to their followers and unobtrusively monitor those tasks to see if support or guidance is needed to followers. The net effect of individualized consideration and other behavior is empowerment (Behling & Mcfillen, 1996).

There are a number of versions of scales for measuring transformational leadership, such as the Transformational Leadership Questionnaire (Private sector version) developed by Alban- Metcalfe and Alimo- Metcalfe (2007), and Transformational Leadership Questionnaire (local government version) constructed by Alban- Metcalfe and Alimo- Metcalfe (2000). Multifactor Leadership Questionnaire (MLQ 5X) by Avolio, Bass & Jung,1999; Bass & Avolio,1990). Another short measure on Transformational Leadership was given by (Carless, Wearing & Mann, 2000).

2) Authentic Leadership

The prevailing literature relating to the authentic leadership notifies that theory of authentic leadership has converged around several underlying dimensions (Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008). Luthans and Avolio (2003, p. 243) defined authentic leadership as "a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development" (as cited in Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008). Luthans and Avolio (2003) and May, Chan, Hodges and Avolio (2003) proposed that authentic leadership comprises positive aspects of morality and high ethical standards that guide behavior and decision making. Authentic leaders are "individuals who are deeply aware of how they think and behave and are perceived by others as being aware of their own and others' moral perspective, knowledge, and strengths; aware of the context in which they operate; and who are confident, hopeful, optimistic, resilient, and high on moral character" (Avolio, Luthans & Walumbwa, 2004, p. 4). The Gardner, Avolio, Luthans, May and Walumbwa (2005) model of authentic leadership focuses on the core self-awareness and self-regulation components of authentic leadership. They identified several distinguishing features associated with authentic leadership self-regulation processes: internalized regulation, balanced processing of information, relational transparency, and authentic behavior. Walumbwa, Avolio, Gardner, Wernsing and Peterson (2008) developed the authentic leadership model centered on previous definitions and produced multidimensional constructs of authentic leadership, comprising four dimensions, as follows:

Self-Awareness: It is defined to get to know one's own position in the context of other people living around in

this world and how one can contribute and influence the different phenomena encountered in daily life. It also refers to grasp the real substance of one's own self and explore what one really feels in the context of other's perceptions and its ultimate effects on the society.

Relational Transparency: It is mainly concerned with showing one's true self through providing credible information as to build confidence and showing real emotions and feelings in order to minimize the ambiguity of being fake.

Balanced Processing: This balance processing is practiced by leaders who expose that they accurately evaluate all the relevant data making final decision. Moreover, leaders ask opinions from their followers that challenge their own profoundly held positions.

Internalized Moral Perspective: An internalized and integrated form of self-regulation, which is guided by internal moral standards and values versus group, organizational, and societal pressures, and results in expressed decision-making and behavior that is consistent with these internalized values. The Authentic Leadership Questionnaire (ALQ), 16 items scale was extensively used to measure authentic leadership which is developed by Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008)

3) Ethical Leadership

The leadership effectiveness is associated with perceptions of the leader's honesty, integrity, fair, principled and trustworthiness by many researchers (Kuntz, Kuntz, Elenkov & Nabirukhina, 2013; Eubanks, Brown & Ybema, 2012; Den Hartog, House, Hanges, Ruiz-Quintanilla, Dorfman & Globe- Associates, 1999). Trevino, Hartman and Brown (2000) and Trevino, Brown and Hartman (2003) extended conducted exploratory research to understand and examine what is meant by the term ethical leadership. The unstructured interviews were conducted with twenty senior executives and twenty compliance officers in different industries. The interviews' results found that ethical leaders are honest, fair, trustworthy, principled and ethical decision makers and their behaviors in personal and professional life were based on ethics and care about people and society. Moral management is also another important aspect of ethical leadership. The moral management aspect of ethical leadership formulates ethics as explicit dimension of ethical leadership and also portrays the leader's positive and proactive effect on follower's ethical and unethical attitude. The ethical leaders visibly show role modeling ethical behaviors and use reward system (reward and discipline) to grasp followers accountable for their ethical conduct in organization (Trevino, Hartman & Brown, 2000; Trevino, Brown & Hartman, 2003). Brown, Trevino and Harrison (2005) merged the two dimensions of ethical leadership under one umbrella and developed definition of ethical leadership as "the demonstration of normatively appropriate conduct through actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement and decision making" (p. 120). The ethical leaders encourage followers to participate in organizational decision-making and also listen to them. In addition, they perform a role of mentor to their followers and are concerned about the progress, development, and growth needs of followers (Brown & Trevino, 2006). Moreover, Brown, Trevino and Harrison (2005) established a 10-item scale based on the mentioned literature to measure the several aspects of ethical leadership, popularly known as the Ethical Leadership Scale (ELS). De Hoogh and Den Dartog (2008) proposed another scale for measuring the ethical leadership, consisting of three elements: morality and fairness (fair and honest), role clarification (open communication, clarification of expectations and responsibilities), and power sharing (listening follower's ideas, allowing them to participate in decision making and worrying about them). De Hoogh and Den Dartog used three construct scale to establish ethical leadership measure: morality and fairness- six items; role clarification- five items and power sharing- six items. The De Hoogh and Den Dartog (2008) and Brown, Trevino and Harrison (2005) instrument are considered valid and reliable for measuring ethical leadership.

4) Servant Leadership

Greenleaf (1970) was the first person who initiated the concept of servant leadership in modern organizational theories. Leadership primarily means to serve others, meet the expectations of others. The servant leadership focuses on others rather than upon self and understands the role of the leader as a servant (Russell & Stone, 2002; Greenleaf, 1977). Spears (1995a) expanded the servant leadership model to include ten characteristics: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, community-building, and growth of people (as cited in Ganoe, 1996). Servant leaders create vision, gain trust and credibility from followers (Farling, Stone & Winston, 1999). Liden, Wayne, Zhao, and Henderson (2008) developed psychometrically tested multidimensional instrument of servant leadership and suggested seven behaviors (Putting Followers first, Creating Value for the Community, Emotional Healing, Empowering, Helping Followers, Grow and Succeed, Behaving Ethically, conceptual skills). Barbuto and Wheeler (2002) describe

servant leadership with 11 characteristics: calling, listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, growth and community building. There are many measurement scale on servant leadership which have received great attention (Greenleaf, 1977; Barbuto & Wheeler, 2002; Dennis, 2004; Ehrhart, 2004; Sendjaya, 2005; Barbuto & Wheeler, 2006; Liden et al., 2008).

5) Spiritual Leadership

The spiritual leadership is formed from an intrinsic model of motivation that integrates the spiritual leadership with three components and their sub components are as follows. Vision is a broad appeal to key stakeholders, destination and journey (Fry, 2003). It reflects high ideals and integrity, does what it takes, encourages hope/faith, and establishes a standard of excellence. Fry (2003) defines vision with three aspects (changing direction, simplifying decisions and coordinating the actions of different people) which serve in creating change. Vision examines the organizational objectives, directs high ambitions, creates sense of meaningful work and develops hope and faith (Daft & Lengel, 1998). Kotter (1996) proposed that vision refers to image of the future with subsequent description as to why individuals should try hard to develop that future. Altruistic Love is forgiveness, kindness, integrity empathy/compassion, honesty, patience, courage, trust/loyalty, humility. Altruistic love refers to "a sense of wholeness, harmony, and wellbeing produce by care, concern, and appreciation for both and others" (Fry, 2003, p. 712). This definition is built on values and morals such as kindness, honesty, lack of greed, forgiveness, acceptance, patience, appreciation for both self and others, and ability to control and regulate oneself (Reave, 2005; Fry, 2003). Hope and Faith comprising of endurance, perseverance, 'does what it takes' stretches goals, expectations of reward. Hope is a wish with an expectation of accomplishment and faith enhances the possibility that hope will come true and exact. Faith is founded on behaviors, values, and attitudes that show what will happen. Hope and faith create an image for the people where they are going and how to reach there, and create a belief for the people that their vision will be achieved (Fry & Melanre, 2008; Fry, 2003). Fry and Cohen (2009) stated that "the purpose of spiritual leadership is to tap into the fundamental needs of both leader and follower for spiritual well-being through calling and membership, to create vision and value congruence across the individual, to empower team, and organization levels and, ultimately, to foster higher levels of organizational commitment and productivity (p. 269)". The basic qualities of spiritual leaders are to understand their self and others; good intuition; love; interrelated view of tasks, staff and process and true picture of the future (Altman, 2010). The widely used instrument for measuring spiritual leadership was established by Fry, Vitucci & Cedillo (2005).

6) Transactional Leadership

Transactional leaders are those who possess task oriented objectives, concentrate on work standards and ensure that they have specific time to attain organizational tasks (Burns, 1978). In addition, they behave in accordance with desires, give extrinsic rewards to their followers, and short term contingent exchanges, negotiate contracts, clarify responsibilities, specify expectations, recognition, and achieve expected performance are the key features of transactional leaders (Bass, 1985). To ensure short-term success, transactional leadership gives followers clarity about rules and standards to protect the status quo and involve closely monitoring and correcting followers' errors (Yukl, 2010; Bass & Avolio, 1995; Bass, 1985; House, 1971). Transactional leadership is measured by Multifactor Leadership Questionnaire (MLQ form 5X), created by (Bass & Avolio, 1990; Avolio, Bass & Jung, 1999).

1.3 Resemblances among Leadership Styles

Based on different definitions of leadership, some authors define leadership as a behavior and others deem it to be a process, the term 'leadership' is undoubtedly a multi-dimensional word consisting of certain behaviors, roles and a set of characteristics which in turn is a combination of three or more components (traits, skills, behavior and attitudes). In fact, there are numerous types of leadership behaviors which are ultimately transformed into various leadership styles (Stone, Russell & Patterson, 2004; Brown & Trevino, 2006; Toor & Ofori, 2009; Oner, 2011).

1.4 Integrative Leadership

To cognize the concept of integrative leadership, it is necessary to move away from traditional models of dyadic leadership (Alban-Metcalfe & Alimo-Metcalfe, 2010). Morse (2010, p.233) stated that "majority of leadership theories rest on hierarchical assumption and leader-follower dynamics that break down in the collaborative context." Avolio (2007) recognized that research on leadership theories has reached its level of development and considers the dynamic interaction between leaders and followers. Now, it requires development and moves to the next step which is integration. Fernandez, Cho and Perry (2010) mentioned that development of shared leadership theory encourages scholars to make an effort to integrate. Chemers (2000) stated that functional integration emphasizes on developing and adopting effective leadership characteristics and skills to influence

followers to achieve the goals. Fernandez, Cho and Perry (2010) indicated in their research that leadership is characterized by different groups of theories, approaches, and models for each group. The leadership literature elaborates that from time-to-time, different theories, models and leadership styles have been developed. These indications show that leadership is not a destination but a journey or a continuous process which needs to be developed over time. Therefore, leadership scholars have emphasized that leadership should be further developed with integrative models and frameworks. Scholars have given different definitions of integrative leadership. For instance, Alban- Metcalfe and Alimo- Metcalfe (2010) defined integrative leadership as shared and collective leadership, in which the person succeeds by collaboratively working with one another. Crosby and Bryson (2010) conceptualized the integrative leadership as "bringing together diverse groups and organization in semi-permanent ways and - typically across sector boundaries – to remedy complex public problems and achieve the common good" (p. 211, as cited in Alban-Metcalfe & Alimo-Metcalfe, 2010). Fernandez, Cho and Perry (2010) stated that integrated leadership is known as a combination of certain leadership roles, performed by combining the efforts of employees and managers at different levels of hierarchy, such as tasks, relations, change diversity and integrity. The model and framework of integrative leadership includes leadership skills, behaviors, traits, and styles, situational and moderating factors in joint form that explain the leadership effectiveness. (Fernandez, 2004; Yukl, 2002). Integrative leadership is defined as "the antithesis of conception of leadership as a process undertaken by an autonomous, self – determining individuals with a secure unitary identity (who see themselves at) the center of social universe" and a leader "whose behavior is solipsistic and often autocratic" (Alvesson & Deetz, 2000, p. 89). Integrative leadership is not only bounded by partnership working but it has greater applicability (Huxman & Vangen, 2005). Some scholars have synthesized leadership knowledge for leadership effectiveness and developed models. They have also tested the integrated leadership models with workplace outcomes (Yukl, 2002; Van Wart, 2003; Fernandez, 2004; Morse, 2010; Silvia & McGuire, 2010; Fernadez, Cho & Perry, 2010; Ismail, Hussain & Rashid, 2011; Njoronge, 2015; Soria, Snyder & Reinhard, 2015). There are two well know measurement tools to measure integrative leadership. The first is the Board Leadership quality 360-BLQ360; developed by Alimo-Metcalfe and Beasley (2010). In this tool, the integrative leadership is measured in eight dimensions. These eight dimensions are: engaging as effective teams, constructive challenges, ensuring a shared vision, promoting quality and improvement, connecting and influencing effective performance and risk-taking, clarity and accountability, personal qualities and values. The second one is the Partnership Leadership Quality 360 developed by (Real World Group, 2010a). In this tool, the integrative leadership is measured on four scales: commitment to partnership, political skills and system thinking and commissioning.

2. Research Method

2.1 Development of Integrative Leadership Framework for an Integrative Leadership Measure

This study has two objectives: to develop initial constructs of integrative leadership measure and to examine content validity of integrative leadership constructs. Therefore, the procedure for the development of the integrative leadership measure was performed in two phase: synthesizing the literature and content validity and panel of experts.

2.1.1 Synthesizing the Literature

To achieve the first objective, the study develops the initial constructs of an integrative leadership measure, the constructs of integrative leadership were obtained through synthesizing the literature, and three sub-topics are covered under synthesizing the literature: 1) literature review 2) integrative leadership framework and 3) item generation and initial draft of the integrative leadership measure.

1) Literature Review and Construct Analysis

In this study, the extensive review of existing literature was done to explore the constructs of an integrative leadership measure. A methodological review of the literature was first conducted and then research gaps were identified. The key words used to find and review the literature were: leadership, leadership styles, transformational leadership, ethical leadership, authentic leadership, servant leadership, spiritual leadership and transformational leadership, integrative leadership and their measures. The literature was reviewed by using the published research papers from research journals, journal articles, working papers and PhD thesis (both published and unpublished).

2) Integrative Leadership Framework

The integrative leadership framework was built to discover the constructs of the integrative leadership measure. Initially, in this study, similar and dissimilar behaviors, characteristics, skills, traits, and roles of six leadership

styles (Transformational, Authentic, Ethical, Servant, Spiritual and transactional) were analyzed in the literature review. Then all the interrelated behaviors (characteristics/skills/ traits/roles) were integrated together to develop constructs. These integrated leadership behaviors were selected from six leadership types: Transformational leadership (Yukl, 2010; Avolio & Bass, 2002; Parry & Proctor-Thomson, 2002; Jung & Avolio, 2000; Bass, 1998; Tracey & Hinkin, 1998; Behling & McFillen, 1996; Kanungo & Mendonca, 1996; Bass & Avolio, 1994; Tracey & Hinkin, 1994; Avolio, Waldman & Yammarino, 1991; Bass & Avolio, 1990; Bass1990a; Bass, 1990b; Burns, 1978; Bass, 1985), Authentic leadership (Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008; Gardner, Avolio, Luthans, May & Walumbwa, 2005; Avolio, Luthans & Walumbwa, 2004; Luthans & Avolio, 2003; May et al., 2003). Ethical leadership (Kuntz, Kuntz, Elenkov & Nabirukhina, 2013; Eubanks, Brown & Ybema, 2012; De Hoogh & Den Dartog, 2008; Brown & Treviño, 2006; Brown, Trevino & Harrison, 2005; Trevino, Brown & Hartman, 2003; Trevino, Hartman & Brown, 2000; Den Hartog et al., 1999; Posner & Schmidt, 1992), Servant leadership (Liden et al., 2008 Barbuto & Wheeler, 2006; Barbuto & Wheeler, 2002; Russell & Stone, 2002; Greenleaf, 1977), Spiritual leadership (Altman, 2010; Fry & Cohen, 2009; Fry & Melanre, 2008; Reave, 2005; Fry, 2003), Transactional leadership (Yukl, 2010; Yukl, 2002; Bass & Avolio, 1995; Bass, 1985; Burns, 1978; House, 1971). Consequently, for an integrative leadership framework, around 100 behaviors of leaders and 13 constructs were developed by synthesizing the literature. These 13 constructs and their behaviors are as follows**.**

The integrative leadership constructs developed for this study were: Charismatic leadership (leader acts as a role model, admired and respected by followers**)**; Providing reward and recognition leadership; Commitment to goals and perseverance; Rational leadership (possesses knowledge, the leader has rational rationale and sound reasoning, analyzes data before making decisions); Power sharing/ empowering leadership **(**shares information, solicits followers' views and opinions, involves followers in problem-solving and decision-making, delegates tasks, encourages followers to followers to use new tactics for old situations, encourages followers to reframe the problems); Visionary/inspirational motivation leadership (has a vision, communicates vision/shows picture of future, shared vision, foresight); Emotional healing leadership **(**understands the emotions of others, provides a platform for employees to express their emotions); Supportive leadership (acts as coach and mentor, motivates followers with purposeful work/goal, monitoring and correcting followers' errors, provides guidance for achieving goals, persuasion); Ethical leadership (honest and fair, integrity, high ethical standards, avoids unethical behaviour, influences followers in relation to ethical behaviour, ethical and principled decision-making, does not publicly criticize the followers' mistakes, communicates ethics and ethical values); Teamwork**-**oriented leadership (aligns own work values with others' values, builds teamwork, works for the collective interest, elevates interest of followers, takes and shares followers' risks, builds long-term interpersonal relationship with followers, appeals broadly to key stake holders, looks beyond self-interest); Individualized consideration and altruistic love leadership (aware of others values/aware of others, concern for followers' development and achievement, aware of context/considers individual differences in terms of different needs, concern for society, concern for followers needs/concern about people/cares for others/serves others, humility/forgivingness, acceptance/gratitude/patience/endurance, kindness/ empathy, loyal, involves organizational members in philanthropic activities/builds community spirit); Role clarification/task**-**oriented leadership (interactive communication/listening/open communication/collaborative communication, builds two-way communication, focuses on work standards, clarifies performance expectation and responsibilities, provides challenges to followers, sets ideal and high goals, negotiates expected performance of followers with rewards/contracts, focuses on short-term goals/takes time to complete task, describes rules and standards, clarifies priorities); Self**-**awareness /self**-**regulatory leadership **(**aware of own values and strength and weaknesses, encourages self to think creatively, confident, optimistic, expresses true feelings, enthusiastic/resilient, hopeful/faithful, practices self-regulation/self-control, appreciates courage by himself).

3) Item Generation and Initial Draft for an Integrative Leadership Measure

This study developed the uni-dimensional items of IL. Furthermore, the items for measuring the integrative leadership were selected from previous studies. Moreover, the items for measuring the integrative leadership were selected from previous studies (Salanova et al., 2011; Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008; Hoogh & Den Hartog, 2008; Liden et al., 2008; Barbuto & Wheeler 2006; Brwon, Trevino & Harrison, 2005; Fry, Vitucci & Cedillo, 2005; Avolio, Bass & Jung, 1999; Hartog, Muijen & Koopman, 1997; Bycio, Hackett & Allen, 1995). Later, the selected items from review of literature were revised due to the context and sample of the study. In addition, some additional sample items were also developed for certain characteristics/behavior of integrative leadership.

2.1.2 Proposed Content Validity by a Panel of Experts

Consistent with above-mentioned research objectives, the development of the integrative leadership measure was also achieved by checking its content validity. Content validity was conducted for the integrative leadership measure by using the concept of indices of item objective congruence (IOC). The items were incorporated into the IOC form, which was sent to panel of experts (experts in conducting quantitative research, academicians and practitioners). Rovinelli and Hambleton (1977) suggested the idea of index of item-objective congruence. Content validity primarily measures the sufficiency, examines the area of interest and meets the objective **(**Hinkin, 2005**).** The indices of the item-objective congruence is a procedure used in test development for evaluating content validity at the item-development stage (Turner and Carlson, 2003). For developing and designing any scale, it is necessary to avoid errors and mistakes in choosing constructs and their measures, it needs to be reviewed by experts (Babbie, 2007). In this study, the IOC form was developed by considering the guidelines of Rovinelli & Hambleton (1977), in which the items were evaluated by assigning a score of 1 **(**for clearly measuring power**)**, **-**1 **(**clearly not measuring**)**, 0 **(**degree to which content measurement is not clear or not sure**)**, and a space was provided for writing suggestions**.** The IOC form and covering letter was sent to all five experts (1 advisor, 2 committee members and 2 bank managers), who possessed enough knowledge on the given subjects and were experts in research. These experts were requested to give their feedback and comments on the definitions of the construct and its items in the IOC form. They were requested to evaluate whether each item of the construct measured what is planned to measure, whether items were clearly written and understandable, whether there was any repetition among the items of each construct, and whether there was a need to develop another item to measure any construct. The IOC form and the covering letter were sent to content experts are presented in Appendix A. The basic formula for calculating the IOC was adopted and developed by (Crocker & Algina, 1986). It is as follows:

$$I_{ik} = \frac{N}{2N-2}(\mu_K - \mu)$$

Where I_{ik} is the index of item-objective congruence for item i on objective k, N = the number of objectives, k = the judges' mean rating of item i on objective k, and μ = the judges' mean rating of item i on all objectives.

3. Result

The five content experts evaluated the validity of the items. After the experts had completed the rating process, the ratings of all the items given by five (5) experts was pooled in a table and the IOC was calculated to obtain the IOC results of measures for each item and for each objective, as suggested by Rovinelli and Hambleton (1977). The item was said to be effective in terms of the IOC if the score of the item was greater than 0.5 (Guntayoung & Chinchai, 2013). The scores of the items on the IOC are presented in Table 1.

Table 1. Score of Content Validity on the IOC form

Constructs	No of Items	Scores Rated by (5) Experts					Content Validity Score
		1	2	3	4	5	
Charismatic Behaviour	1	1	1	1	1	1	1.00
	2	1	-1	1	1	1	0.6
Providing Rewards and Recognition of Behaviour	1	1	1	0	1	1	0.8
	2	1	1	0	1	1	0.8
Rational Behaviour	1	1	1	1	1	1	1.00
	2	1	0	1	1	-1	0.4
	3	1	1	1	1	1	1.00
Commitment with goals /Perseverance Behaviour	1	1	1	1	1	1	1.00
	2	1	1	1	1	1	1.00
Visionary/Inspirational motivation Behaviour	1	1	1	0	1	1	0.8
	2	1	1	0	1	1	0.8
	3	1	1	1	1	1	1.00
	4	1	1	1	1	-1	0.6
Emotional Healing Behaviour	1	1	0	1	1	1	0.8
	2	1	1	0	1	1	0.8
Supportive Behaviour	1	1	1	1	1	1	1.00
	2	1	1	1	1	1	1.00
	3	1	1	1	1	1	1.00
	4	1	1	1	1	1	1.00
	5	1	1	1	1	1	1.00

Constructs	No of Items	Scores Rated by (5) Experts					Content Validity Score
		1	2	3	4	5	
Ethical Behaviour	1	1	1	1	1	1	1.00
	2	1	1	1	1	1	1.00
	3	1	1	1	1	1	1.00
	4	1	0	1	1	0	0.6
	5	1	0	1	1	1	0.8
	6	1	1	1	1	1	1.00
	7	1	1	1	1	1	1.00
	8	1	1	1	1	1	1.00
	9	1	1	1	1	1	1.00
Power sharing /Empowering Behaviour	1	1	1	1	1	1	1.00
	2	1	1	1	1	1	1.00
	3	1	1	1	1	1	1.00
	4	1	1	1	1	1	1.00
	5	1	1	1	1	1	1.00
Teamwork-Oriented Behaviour	1	1	0	0	-1	0	0
	2	1	1	1	1	1	1.00
	3	1	1	1	1	1	1.00
	4	1	-1	1	1	1	0.2
	5	1	-1	1	1	1	0.8
	6	1	0	1	1	1	0.8
	7	1	0	1	1	1	0.8
	8	1	0	1	1	1	0.8
Individualized Consideration and Altruistic love /Behaviour	1	1	1	1	1	1	1.00
	2	1	-1	1	1	1	0.6
	3	1	1	1	1	1	1.00
	4	1	0	1	1	1	0.8
	5	1	0	1	1	1	0.8
	6	1	1	0	1	1	0.8
	7	1	-1	1	1	1	0.6
	8	1	1	1	1	1	1.00
	9	1	1	0	1	1	0.8
	10	1	1	1	1	1	1.00
Role Clarification/ Task-oriented Behaviour	1	1	1	0	1	1	0.8
	2	1	-1	1	1	1	0.6
	3	1	1	1	1	1	1.00
	4	1	1	1	1	1	1.00
	5	1	1	1	1	1	1.00
	6	1	0	1	1	1	0.8
	7	1	0	1	1	0	0.6
	8	1	1	1	1	1	1.00
	9	1	1	1	1	1	1.00
Self-awareness/Self-Regulatory Behaviour	1	1	1	1	1	1	1.00
	2	1	1	1	1	1	1.00
	3	1	1	-1	1	1	0.6
	4	1	0	1	1	1	0.8
	5	1	1	1	1	1	1.00
	6	1	1	1	1	1	1.00
	7	1	1	1	1	1	1.00
	8	1	0	1	1	-1	0.4
	9	1	0	1	1	-1	0.4
	10	1	1	1	1	1	1.00
	11	1	1	1	1	1	1.00

Once the integrative leadership measure was developed, it was revised by the advisor. The proposed items of integrative leadership measure achieved the scores on IOC by five experts, it was found that five items of the IL measure had a low IOC scores and they needed to be rewritten as suggested by the IOC experts in this study, and those of low reliability items were revised. None of items were removed from the integrative leadership measure after the IOC score because there was only one item for each behavior in the constructs.

3.1 Item Scaling of the Integrative Leadership

Once the content validity of the constructs was obtained and the items were refined, the next step was to set the scale of items. For the integrative leadership six points Likert scale: strongly agree, agree, somewhat agree,

somewhat disagree, disagree, and strongly disagree were used to collect the data from the study's participants Likert- type scale were broadly used scale in one's survey research **(**Cook, Trapp & Williams, 1981), and the coefficient alpha reliability increased with Likert scales up to the use of the 5 to 7 Likert scale **(**Hinkin, 2005**).**

4. Discussion

This research article was written to develop definition, initial constructs, and items and to measure content validity of the integrative leadership measure. The extensive review of the literature was done and the operational definition of integrative leadership was derived from six types of leadership (transformational, authentic, ethical, servant, spiritual and transactional). The behaviors under these six leadership styles were integrated and constructs and their items were developed. The developed items were obtained from existing scales available on various leadership styles, and were revised and some new item were also built. Kuhn (1996) stated that new approaches and frameworks should be developed when existing paradigms and models are insufficient in explaining the perceived phenomena. Past leadership research involved research theory in periodic form; such as one theory focusing on trait leadership at one time; cognitive, situational leadership, charismatic leadership at another time (Chemers, 2000). These leadership theories systematically define shared findings and streams of thought across theoretical perspectives. In the last, the content validity of developed items was evaluated. Overall, it was concluded that integrative leadership is a multidimensional process in which leaders possess traits, characteristics, skills, and perform various roles and behaviors, comprising of 13 constructs such as: Charismatic Leadership, Providing Reward and Recognition Leadership, Commitment with Goals and Perseverance Leadership, Rational Leadership, Power Sharing/Empowering Leadership, Visionary/Inspirational Motivation Leadership, Emotional Healing Leader, Supportive Leadership, Ethical Leadership, Team- Oriented Leadership, Individualized Consideration and Altruistic Love Leadership, Role Clarification/Task-Oriented Leadership and Self -Awareness/ Self- Regulation Leadership. The definition of integrative leadership was consistent with previous definitions of integrative leadership given by Winston & Patterson (2006), Fernandez, Cho and Perry, (2010), Bakker (2002) Chemers (2000) and Rost (1993). This study found that most of the integrative leadership constructs name cannot be seen as the same as particular constructs in any existing leadership style and in integrative leadership. The leadership researchers provide new theories, findings and results, which originate to understand leadership differently, but integrative leadership provides an avenue to cognize whole of leadership (Winston & Patterson, 2006). The name of each construct of integrative leadership seems innovative and rare due to the integration of various leadership styles. Many dimensions of the integrative leadership are virtuous (Winston & Patterson, 2006). The definition and measure of IL was supported by Weber (1947). Weber (1947) claimed that the nature and type of leadership depends on the culture of that organization. This study followed the principle of facet theory (Donald, 1995) for developing IL measures; and that statement of each item was redrafted and revised because behavior is always influenced by culture (Hofsted, 2001). Chemers (2000) stated that functional integration helps in making an effort and emphasizes on developing and adopting effective leadership characteristics and skills to influence followers in order to achieve the goals. Hence, it can be said that integrative leadership is novel approach, different from old theories of leadership. It may be amalgamation or combination of leadership styles consisting different characteristics, trait, skills, behaviors, and roles. It creates a notion of shared leadership (between employees and managers) for leadership effectiveness and influences followers to achieve organizational goals

5. Implications and Recommendations for Future Research

The current study provides advantages to human resource and leadership scholars, HR professionals and managers of various organizations. The current study is addition to academic literature as it contributes literature with revised and theorized definition of integrative leadership, and developed initial constructs of integrative leadership measure. The future researcher may adopt definitions, constructs and developed items of integrative leadership for the purpose of further development and upgradation. Another key finding of this study is that it provides implications and recommendations in the area of leadership development. Leaders may use this integrative leadership framework in their leadership development plan. Organization may also use the integrative leadership characteristics when recruiting managers or leaders. In addition, the integrative leadership framework may help the top management, supervisors and middle level managers, greatly, in the development of leadership plans and leadership reports. Integrative leadership creates a notion of shared leadership (between employees and managers) for leadership effectiveness and influences followers to achieve organizational goals.

To enhance authenticity of the integrative leadership measure, future researcher should study the psychometric properties of integrative measure. Therefore, it is recommended that data should be collected form large number of respondents who are working in different industries. Moreover, research should adopt confirmatory factor analysis to evaluate construct validity, criterion validity and reliability analysis of 13 constructs of integrative

measurement tool. The integrative leadership can be further refined and developed in to the existing leadership models. Therefore, future researchers are directed to incorporate the advanced leadership types such as benevolent leadership, paternalistic leadership into proposed integrative leadership framework in order to expand the scope of integrative leadership model.

References

Abbas, Q., & Yaqoob, S. (2009). Effect of leadership development on employee performance in Pakistan. *Pakistan Economic and Social Review, 47*(2), 269-292.

Alban-Metcalfe, J., & Alimo-Metcalfe, B. (2000). An analysis of the convergent and discriminant validity of the transformational leadership questionnaire. *International Journal of Selection and Assessment, 8*(3), 158-175. https://doi.org/10.1111/1468-2389.00144

Alban-Metcalfe, J., & Alimo-Metcalfe, B. (2007). Development of a private sector version of the (engaging) transformational leadership questionnaire. *Leadership & Organization Development Journal, 28*(2), 104-121. https://doi.org/10.1108/01437730710726813

Alban-Metcalfe, J., & Alimo-Metcalfe, B. (2010). Integrative leadership, partnership working and wicked problems: A conceptual analysis. *International Journal of Leadership in Public Services, 6*(3), 3-13. https://doi.org/10.5042/ijlps.2010.0512

Alimo-Metcalfe, B & Beasley, K. (2010). *Construction of the board leadership quality 360–BLQ360 (*Working Paper). Leeds, Real World Group.

Altman, Y. (2010). In search of spiritual leadership: Making a connection with transcendence. *Human Resource Management International Digest, 18*(6), 35-38. https://doi.org/10.1108/09670731011071764

Alvesson, M., & Deetz, S. (2000). *Doing Critical Management Research.* London: Sage. https://doi.org/10.4135/9781849208918

Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory-building. *American Psychologist, 62*(1), 25. https://doi.org/10.1037/0003-066X.62.1.25

Avolio, B. J., & Bass, B. M. (2002). *Developing potential across a full range of leadership cases on transactional and transformational leadership.* Mahwah, NJ: Lawrence Erlbaum Associates.

Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re- examining the components of transformational and transactional leadership using multifactor leadership questionnaire. *Journal of Occupational and Organizational Psychology, 72* (4), 441-462. https://doi.org/10.1348/096317999166789

Avolio, B., Luthans, F., & Walumbwa, F. O. (2004). *Authentic leadership: Theory-building for veritable sustained performance* (Working paper). Gallup Leadership Institute, University of Nebraska, Lincoln.

Avolio, B., Waldman, D., & Yammarino, F. (1991). Leading in the 1990s: The four is of transformational leadership. *Journal of European Industrial Training, 15*(4), 9-16. https://doi.org/10.1108/03090599110143366

Babbie, E. R. (12th Eds.). (2010). *Introduction to social research.* Belmont, CA: Wadsworth Cengage Learning.

Barbuto Jr, J. E., & Wheeler, D. W. (2006). Scale development and construct clarification of servant leadership. *Group & Organization Management, 31*(3), 300-326. https://doi.org/10.1177/1059601106287091

Barbuto, J. E.ม & Wheeler, D. W. (2002). *Becoming a servant leader: Do you have what it takes?* University of Nebraska, Lincoln.

Barker, R. A. (2002). *On the nature of leadership.* Lanham: University Press of America.

Bass, B. M. (1985). *Leadership and performance beyond expectation.* New York: The Free Press.

Bass, B. M. (1990). *Bass and Stogdill's Handbook of Leadership: Theory, Research and Management Applications* (3rd ed.). *s*. New York: The Free Press.

Bass, B. M. (1990a). *Bass and stogdill's Handbook of leadership: Theory, Research, and Managerial Applications* (3rd ed.). New York: The Free Press.

Bass, B. M. (1990b). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics, 18*(3), 19-31. https://doi.org/10.1016/0090-2616(90)90061-S

Bass, B. M. (1998). *Transformational leadership: Industrial, military, and educational impact.* Mahwah, NJ: Lawrence Erlbaum Associates.

Bass, B. M., & Avolio, B. J. (1990). *Multifactor leadership questionnaire*. Palo Alto, CA: Consulting Psychologist Press.

Bass, B. M., & Avolio, B. J. (1995). *MLQ multifactor leadership questionnaire.* Redwood City, CA: Mind Garden.

Bass, B.M. & Avolio, B.J. (Ed.). (1994). *Improving organizational effectiveness through transformational leadership.* Thousand Oaks, CA: Sage.

Behling, O. & McFillen, J. M. (1996). A syncretical model of charismatic/transformational leadership. *Group and Organizational Management, 21*(2), 163-191. https://doi.org/10.1177/1059601196212004

Brown, M. E., & Trevino, L. K. (2006). Ethical leadership: A review and future directions. *The Leadership Quarterly, 17*(6), 595-616. https://doi.org/10.1016/j.leaqua.2006.10.004

Brown, M. E., Trevino, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes, 97*(2), 117-134. https://doi.org/10.1016/j.obhdp.2005.03.002

Burns, J. M. (1978). *Leadership.* New York: Harper Torch books.

Bycio, P., Hackett, R. D., & Allen, J. S. (1995). Further assessments of Bass's (1985) conceptualization of transactional and transformational leadership. *Journal of Applied Psychology, 80*(4), 468. https://doi.org/10.1037/0021-9010.80.4.468

Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology, 14*(3), 389-405. https://doi.org/10.1023/A:1022991115523

Chemers, M. M. (2000). Leadership research and theory: A functional integration. Group Dynamics. *Theory, Research, and Practice, 4*(1), 27. https://doi.org/10.1037/1089-2699.4.1.27

Cook, R. W., Trapp, A. L., & Williams, J. F. (1981). Pathology of Taenia taeniaformis infection in the rat: Hepatic, lymph node and thymic changes. *Journal of Comparative Pathology, 91*(2), 219-226. https://doi.org/10.1016/0021-9975(81)90026-8

Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory.* Toronto: Holt, RineHart, and Winston, Inc. https://nsuworks.nova.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com.pk/&httpsredir=1&article=1870&context=tqr/

Crosby, B. C., & Bryson, J. M. (2010). Integrative leadership and the creation and maintenance of cross-sector collaborations. *The Leadership Quarterly, 21*(2), 211-230. https://doi.org/10.1016/j.leaqua.2010.01.003

Daft, R. L., & Lengel, R. H. (1998). *Fusion leadership: Unlocking the subtle forces that change people and organization.* San Francisco, CA: Berrett- Koehler Publishers.

De Hoogh, A. H. B., & Den Dartog, D. N. (2008). 'Ethical and despotic leadership, relationships with leader's social responsibility, top management team effectiveness and subordinates' optimism: A multi- method study'. *The Leadership Quarterly, 19*(3), 297-311. https://doi.org/10.1016/j.leaqua.2008.03.002

Den Hartog, D. N., House, R. J., Hanges, P. J., Ruiz-Quitanilla, S. A., Dorfman, P. W., & Globe-Associates. (1999). Culture specific and cross culturally generalizable implicit leadership theories: Are attributes of charismatic/transformational leadership universally endorsed? *The Leadership Quarterly, 10*(2), 219-256. https://doi.org/10.1016/S1048-9843(99)00018-1

Dennis, S. R. (2004). *Servant leadership theory: Development of the servant leadership assessment instrument* (Unpublished doctoral dissertation). School of Leadership Studies, Regent University, Virginia Beach, VA.

Donald, L. (1995). Facet theory: Defining research domain. In G. M. Breakwell., S. Hammond., & C. Fife-Schaw (Eds.), *Research Methods in Psychology* (116–37). SAGE, London.

Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit level organizational citizenship behavior. *Personnel Psychology, 57*(1), 61-94. https://doi.org/10.1111/j.1744-6570.2004.tb02484.x

Eubanks, D. L., Brown, A. D., & Ybema, S. (2012). Leadership, identity, and ethics. *Journal of Business Ethics, 107*(1), 1-3. https://doi.org/10.1007/s10551-012-1295-5

Farling, M. L., Stone, A. G., & Winston, B. E. (1999). Servant leadership: Setting the stage for empirical research. *Journal of Leadership & Organizational Studies, 6*(1-2), 49-72.

https://doi.org/10.1177/107179199900600104

Fernandez, S. (2004). Developing and testing an integrative framework of public sector leadership: Evidence from the public education arena. *Journal of Public Administration Research and Theory, 15*(2), 197-217. https://doi.org/10.1093/jopart/mui014

Fernandez, S., Cho, Y. J., & Perry, J. L. (2010). Exploring the link between integrated leadership and public sector performance. *The Leadership Quarterly, 21*(2), 308-323. https://doi.org/10.1016/j.leaqua.2010.01.009

Fry, L. W. (2003). Toward a theory of spiritual leadership. *The Leadership Quarterly, 14*(6), 693-727. https://doi.org/10.1016/j.leaqua.2003.09.001

Fry, L. W., & Cohen, M. P. (2009). Spiritual leadership as a paradigm for organizational transformation and recovery from extended work hours' cultures. *Journal of Business Ethics, 84*(1), 265-278. https://doi.org/10.1007/s10551-008-9695-2

Fry, L. W., Vitucci, S., & Cedillo, M. (2005). Transforming the army through spiritual leadership. *The Leadership Quarterly, 16*(5), 835-862. https://doi.org/10.1016/j.leaqua.2005.07.012

Ganoe, F. J. (1996). Reflections on Leadership: How Robert K. Greenleaf's Theory of Servant-Leadership Influenced Today's Top Management Thinkers. *Journal of Systems Management, 47*(3), 62.

Gardner, W. L., Avolio, B. J., Luthans, F., May, D. R., & Walumbwa, F. O. (2005). "Can you see the real me?" A self-based model of authentic leader and follower development. *The Leadership Quarterly, 16*, 343-372. https://doi.org/10.1016/j.leaqua.2005.03.003

Greenleaf, R. K. (1970). *The servant as leader.* Indianapolis: The Robert K. Greenleaf Center.

Greenleaf, R. K. (1977). *Servant leadership: A journey into the nature of legitimate power and greatness.* New York, NY: Paulist Press.

Guntayoung, C., & Chinchai, S. (2013). The content validity and test-retest reliability of the developmental visual perception test (DTVP-2) in Thai children. *International Journal of Medicine and Pharmaceutical Sciences, 1*(3), 1-6.

Hartog, D. N., Muijen, J. J., & Koopman, P. L. (1997). Transactional versus transformational leadership: An analysis of the MLQ. *Journal of Occupational and Organizational Psychology, 70*(1), 19-34. https://doi.org/10.1111/j.2044-8325.1997.tb00628.x

Hinkin, T. R. (2005). Scale development principles and practices. In R. A. Swanson, & E.F. Holton III (Eds.), *Research in organizations: foundations and methods of inquiry* (pp. 161- 179). San Francisco: Berrett-Koehler Publishers Inc.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.

House, R. J. (1971). A path goal theory of leader effectiveness. *Administrative Science Quarterly, 16*(3), 321-339. https://doi.org/10.2307/2391905

http://kentblumberg.typepad.com/kent_blumberg/files/servant_leadership_by_univ_of_nebraska.pdf

Huxham, C., & Vangen, S. (2005). *Managing to collaborate: The theory and practice of collaborative advantage.* New York: Routledge.

Ismail, W. K. W., Hussain, G., & Rashid, M. A. (2011). Integrative framework of leadership effectiveness. *International Journal of Business and Social Science, 2*(2), 126-132.

Javaid, M. F., & Mirza, M. U. (2013). *Leadership style enhances the employee organizational commitment: A case study of educational institutions in Lahore.* Paper presented in *International Journals and Conference of management, Retrieved from* URL: http://localhost/icjmsss.

Jung, D. I., & Avolio, B. J. (2000). Opening the black box: An experimental investigation of the mediating effects of trust and value congruence on transformational and transactional leadership. *Journal of Organizational Behavior, 21*(8), 949-964. https://doi.org/10.1002/1099-1379(200012)21:8<949::AID-JOB64>3.0.CO;2-F

Kanungo, R. N., & Mendonca, M. (1996). *Ethical dimensions of leadership.* Thousand Oaks, CA: Sage.

Kotter, J. P. (1996). *Leading change. Boston.* Harvard Business School Press.

Kuhn, T. (1996). *The structure of scientific revolutions*(3rd ed.). Chicago: The University of Chicago Press. https://doi.org/10.7208/chicago/9780226458106.001.0001

Kuntz, J. R. C., Kuntz, J. R., Elenkov, D., & Nabirukhina, A. (2013). Characterizing ethical cases: A cross-cultural investigation of individual differences, organizational climate, and leadership on ethical decision-making. *Journal of Business Ethics, 113*(2), 317-331. https://doi.org/10.1007/s10551-012-1306-6

Leskiw, S. L., & Singh, P. (2007). Leadership development: Learning from best practices. *Leadership & Organization Development Journal, 28*(5), 444-464. https://doi.org/10.1108/01437730710761742

Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multi-level assessment. *The Leadership Quarterly, 19*(2), 161-177. https://doi.org/10.1016/j.leaqua.2008.01.006

Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.). *Positive organizational scholarship*, pp. 241-258. San Francisco: Berrett-Koehler.

May, D. R., Chan, A., Hodges, T., & Avolio, B. J. (2003). Developing the moral component of authentic leadership. *Organizational Dynamics, 32*(3), 247-260. https://doi.org/10.1016/S0090-2616(03)00032-9

Morse, R. S. (2010). Integrative public leadership: Catalyzing collaboration to create public value. *The Leadership Quarterly, 21*(2), 231-245. https://doi.org/10.1016/j.leaqua.2010.01.004

Moxley, R. S. (2000). Leadership and spirit. Jossey-Bass, San Francisco: CA.

Njoroge, D. (2015). The effect of integrative leadership style on organizational commitment as moderated by employee participation in technical institutions in Kenya. *Strategic Journal of Business & Change Management, 2*(4), 52-71.

Oner, Z. H. (2012). Servant leadership and paternalistic leadership styles in the Turkish business context: A comparative empirical study. *Leadership & Organization Development Journal, 33*(3), 300-316. https://doi.org/10.1108/01437731211216489

Parry, K. W., & Proctor-Thomson, S. B. (2002). Perceived integrity of transformational leaders in organizational settings. *Journal of Business Ethics, 35*(2), 75-96. https://doi.org/10.1023/A:1013077109223

Posner, B. Z., & Schmidt, W. H. (1992). Values and the American manager. An update updated. California *Management Review, 34,* 80-94. https://doi.org/10.2307/41167425

Real World Group. (2010a). *Partnership working 360.* Leeds: Real World Group. Retrievd from https://realworld-group.com/files/integrative-leadership-systems-thinking-and-wicked-problems-570f82a76f9da.pdf

Reave, L. (2005). Spiritual values and practices related to leadership effectiveness. *The Leadership Quarterly, 16*(5), 655-687. https://doi.org/10.1016/j.leaqua.2005.07.003

Rost, J. C. (Ed.). (1993). *Leadership for the twenty-first century.* Westport, CT: Praeger.

Rovinelli, R. J., & Hambleton, R. K. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Dutch Journal of Educational Research, 2,* 4-60.

Russell, R. F., & Stone, A. G. (2002). A review of servant leadership attributes: Developing a practical model. *Leadership and Organization Development Journal, 23*(3), 145-157. https://doi.org/10.1108/01437730210424

Salanova, M., Lorente, L., Chambel, M. J., & Martínez, I. M. (2011). Linking transformational leadership to nurses' extra‐role performance: the mediating role of self‐efficacy and work engagement. *Journal of Advanced Nursing, 67*(10), 2256-2266. https://doi.org/10.1111/j.1365-2648.2011.05652.x

Sendjaya, S. (2005). *Development and validation of the servant leadership behavior scale* (Unpublished term paper). School of Leadership Studies, Regent University

Silvia, C., & McGuire, M. (2010). Leading public sector networks: An empirical examination of integrative leadership behaviors. *The Leadership Quarterly, 21*(2), 264-277. https://doi.org/10.1016/j.leaqua.2010.01.006

Soria, K., Snyder, S., & Reinhard, A. P. (2015). Strengthening college students' integrative leadership orientation by building a foundation for civic engagement and multicultural competence. *Journal of leadership Education.* https://doi.org/10.12806/V14/I1/R4

Spears, L. C. (Ed.). (1995a). *Reflections on leadership: How Robert K. Greenleaf's theory of servant-leadership influenced today's top management thinkers.* Atlanta, GA: Greenleaf Center.

Stone, A. G., Russell, R. F., & Patterson, K. (2004). Transformational versus servant leadership: A difference in leader focus. *Leadership & Organization Development Journal, 25*(4), 349-361. https://doi.org/10.1108/01437730410538671

Toor, S. R., & Ofori, G. (2009). Ethical leadership: Examining the relationships with full range leadership model, employee outcomes, and organizational culture. *Journal of Business Ethics, 90*(4), 533-547. https://doi.org/10.1007/s10551-009-0059-3

Tracey, J. B. & Hinkin, T. R. (1998). Transformational leadership or effective managerial practices? *Group & Organization Management, 23*(3), 220-236. https://doi.org/10.1177/1059601198233002

Tracey, J. B., & Hinkin, T. R. (1994). Transformational leaders in the hospitality industry. *Cornell Hotel and Restaurant and Administration Quarterly, 35*(2), 18-24. https://doi.org/10.1177/001088049403500213

Trevino, L. K., Brown M., & Hartman, L. P. (2003). A qualitative investigation of perceived executive ethical leadership: Perceptions from inside and outside the executive suite. *Human Relations, 55*(1), 5-37. https://doi.org/10.1177/0018726703056001448

Trevino, L. K., Hartman, L. P., & Brown, M. (2000). Moral person and moral manager: How executives develop a reputation for ethical leadership. *California Management Review, 42*(4), 128-142. https://doi.org/10.2307/41166057

Turner, R. C., & Carlson, L. (2003). Indexes of item-objective congruence for multidimensional items. *International Journal of Testing, 3*(2), 163-171. https://doi.org/10.1207/S15327574IJT0302_5

Van Wart, M. (2003). Public-sector leadership theory: An assessment. *Public Administration Review, 23,* 214-228. https://doi.org/10.1111/1540-6210.00281

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management, 34*(1), 89-126. https://doi.org/10.1177/0149206307308913

Weber, M. (1947). *The theory of social and economic organization.* New York: Free Press.

Winston, B. E., & Patterson, K. (2006). An integrative definition of leadership. *International Journal of Leadership Studies, 1*(2), 6-66.

Woolley, L., Caza, A., & Levy, L. (201). Authentic leadership and follower development: Psychological capital positive work climate and gender. *Journal of Leadership and Organizational Studies, 18*(4), 438-448. https://doi.org/10.1177/1548051810382013

Yukl, G. (5th Ed.). (2002). *Leadership in organizations.* Upper Saddle River, NJ: Prentice Hall.

Yukl, G. (6th Ed.). (2006). *Leadership in organizations.* Englewood Cliffs, NJ: Prentice Hall.

Yukl, G. (7th Ed.). (2010). *Leadership in organizations.* Upper Saddle River, NJ: Prentice Hall.

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Activating Balanced Scorecard Importance as a Way to Improve the Accounting Education in Jordanian Universities

Yaser Saleh Al Frijat[1]

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

Correspondence: Yaser Saleh Al Frijat, Business Faculty, Accounting Department, Tafila Technical University, Jordan.

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Abstract

This study discussed activating Balanced Scorecard (BScs) importance as a way to improve the Accounting Education in Jordanian Universities. Data analysis was conducted using multiple regression models, a sample 134 academic staff in the Accounting departments and Managers in Jordanian Universities. The findings of regressions indicated that there is a statistically significant positive relationship between activating of BScs and improve Accounting Education, where a asserted that financial indicators, students, internal processes, learning's and innovation contribute in performance success of accounting education, in terms of activating internal controls of all revenues and expenditures, and achievement principle of operational efficiency. It also emphasized to pay attention to students, and on providing academic services, and provide students with intellectual skills, personal, ethical, and communication with others, also surveying students, accepts complaints, continuous communication with students after graduation, meeting admission requirements for accounting students. The study also concluded that supporting scientific research culture for academics, paying attention to quality standards that deal with education and updating technology means related to teaching processes.

Keywords: balanced scorecard, accounting education, accounting departments, Jordanian universities, Jordan

1. Introduction

Traditional education which most of International Universities are witnessing that led to retreat in drawing its vision and strategy for many years. As also, the Universities are facing difficult challenges in their output, because of default in performance measurement, such as difficult financial conditions that led to bankruptcy brink, a lack of experiences, competencies and absence of developments that are interested in University education, and neglect in scientific research that forms an important dimension in drawing policies which Universities are planning, this makes higher education has no quality standards that must take care.

The absence of University per formative perspective under decentralized management. Differences in accounting education systems between States (Watty et al, 2014). And due to non emergence of high percentage of Arabic and foreign Universities from the world education ranking which made educational organizations to look for developing solutions through which they can do performance evaluation, and address all gaps in accounting education.

Lack of strategic planning in higher education institutions which requires to develop clear, and achievable goals and tasks, make them face difficulties because of being excellence centers in teaching and research (Elgeuoshy & Abdrabou, 2015). This actuates the concern because University education in most of world states doesn't meet accounting profession needs. This drives the International Federation of Accountants (IFAC) thinks of issuing professional accounting education standards on 2003 that provide basis and rules that Universities must use (AlMotairy & Stainbank, 2014). Sarea & Alrawahi (2014) study results indicated that accounting students are not qualified fully to join directly the profession before student is subjected to training and then engage in the labour market.

BScs is widely accepted in many international business organizations, for its importance in assessing performance, (Kald & Nilsson, 2000; Malmi 2001; Rigby 2001; & Hallman 2005). BScs also is deemed one of the important tools in evaluating the overall strategy of the institution because it analyzes their performance based on developed vision and goals to succeed in guiding to the correct performance that supports institution work (Blasch, 2012). It

also serves as an important tool in achieving objectives and considered as a key for sustainable management and controlling the decision (CHIŢ & OPRIŞ, 2014). BScs is an effective approach in performance, assessing and achieving competitive advantage Chena et al, (2011). Ahmed & Solayman (2015) also indicated the role of BScs in maximizing the strategic performance results, and consider it as a framework for managing the performance of the Organization to enable it in to identifying business goals. khatoon & Faroog (2014) indicated that BScs is one of the most popular and widely used in performance measurement field. Kettunen & Kantola (2005) emphasized that BScs is not only important in performance measuring and objectives achievement, but also in planning processes associated with information systems.

However, in light of effectiveness loss of the balanced perspective as an advanced method in evaluation educational performance among Universities, and their focus on traditional managerial methods on the financial side, the lack of attention to other dimensions (students; internal processes; learning's and innovation), as well as in reduced State financial support for Universities, few fellowships and assistants, lack of alternative financial resources, and renewed philosophy of University departments, lack of attention regarding academic competencies development, with non selection of qualified academic competencies, low salaries and wages; high number of acceptance unqualified students in accounting specialties field in the Universities. In addition scientific research culture represented by a small percentage of Universities budgets within (1%) of Jordanian Companies act. As well as vision and strategy niglecance that should be recognized by Universities represented by creating educational output accounting qualified academically, professionally and ethically.

Ignorance of measuring performance in University during students campus life stages, which led to deep failure in making progress indicators which Universities aspire so the product (student) become is for the purpose of obtaining traditional knowledge, without giving the required skills and professional ethics required in labour market, without involving him in drawing part of policies and strategic plans the University concerns. Therefore the research problem can be formulated through the following question: Do implementation of balanced scorecard in Universities has positive effect that contributes in improving accounting education performance of all its dimensions?

2. Review of Relevant Literature

Many studies indicated the importance of implementing BScs in educational field, and the movement to develop accounting education for the purpose of achieving vision and strategy that Universities seek to contribute to providing accounting education output with high professional skills to serve labour markets, without facing any problems such as lack of knowledge, skills and the absence of morality. Nofel & potora (2017) study, the implementation of the Balanced Scorecard in the field of education sector has high positive benefits. Consequently, the evaluation of the strategic performance of the universities achieves an accurate examination of the current situation to determine strengths, and weaknesses. Results indicate that the Balanced Scorecard can be adopted to measure the performance of education in University, and assist in developing administrative performance for University. Also alfrijat & Shbeilat (2016) indicate to Traditional education in accounting and its unfavorable impact on graduates students.

Pietrzak et al, (2015) study investigated competition increment in public and private sectors in higher education that may lead to interest in quality improvement, and performance measurement. Among organizational performance works that resort to utilize BScs to translate distinctive strategic objectives in research, education and performance measurement field. Al-Hosaini & Sofian (2015), study showed the importance of BScs in higher education institutions. The study concluded that the application of this idea can monitor Universities performance and adaptation with all challenges arising from strategy implementation. Deshpande (2015) "This paper aims at bringing in a model to apply balanced scorecard (BScs) by Kaplan and Norton in higher education and with special emphasis on business school".

Fooladvanda et al, (2015) Study pointed strategic planning models and BScs as methods that deal with planning and performance evaluation of institutions and companies. But how these two approaches have a role in improving education quality in Universities and higher education institutions?, and What are the needed requirements for their implementation?. The results indicated that these two approaches have clear and distinctive performance in different areas of knowledge, leadership, and strategic planning. Ismail, & Al-Thaoiehie (2015) study considered the idea of introducing BScs as a model by the performance of higher education institutions in Saudi Arabia is characterized. The results revealed that most of key performance indicators were associated with clients and internal business processes, while it does not recommend the learning, innovation and financial perspective.

Özpeynirci et al, (2015), study discussed "the efficiency in accounting education and Balanced Scorecard (BSC) which is one of the performance measurement tools is a technique used for comparing the goals with the

activities and evaluating of outputs". Binden et al, (2014), study discussed the subject of higher education institutions in Malaysia which does not use BScs method as a critical tool for performance measurement. It stressed the importance in measuring Universities performance. khatoon & Faroog (2014), study aimed to show BScs role in organizational performance measurement to reflect organization's vision and strategy and translate the same into achievement. Results indicated that there is positive effects, despite the obstacles encountered in practice.

Watty et al, (2014) examined the nature of accounting education systems in three countries Australia, Japan and Sri Lanka. The results revealed varying differences in accounting education systems represented by admission conditions of professional programs; accreditation processes, and discipline standards. These differences will support the study and submit a model that is considered as a tool to assist the parties concerned in any country for the purpose of taking initial steps to develop distinctive system of accounting education to enhance the opportunity of global closeness in accounting education field. Sordo et al, (2012), "Universities act in order to create and communicate knowledge, mainly via research and teaching. They require a reporting system which supports these aims and tracks performance. This paper explores the balanced scorecard (BSC) to ensure reporting practices by Universities".

Al-Zwyalif (2012), study aimed to highlight the extent of awareness of Jordanian private Universities in implementing BScs for the purpose of assessing performance, and determines the capacity of these Universities to implement BScs through basic elements responsible for implementation of financial and staff resources. The results revealed that Universities are aware the importance of its implementation.

Zangoueinezhad & Moshabaki (2011) study handled the measurement University performance on the four knowledge - based perspectives of a BScs. The results reveal the critical aspects of the evaluation criteria as well as the gaps to improve University performance in order to achieve the /desired level. The paper suggests implementation of BScs based on knowledge in Universities to annual performance evaluation. Umashankar & Dutta, (2007) the study aims to look at the balanced scorecard and applied to education programs in higher educational institutions.

Kettunen & Kantola (2005) study described planning and implementation in Finland of information management system of campus-wide by using BScs due to its importance not only in achieving institutional strategic objectives and measurements operations, but also in planning management information system. The concluded findings are useful for educational managers, projects, software developers and professionals. Self (2004), the study explained that BScs made the knowledge regarding what are the important areas that should be focused on? For the end purpose to the customers services improvement.

3. Balanced Scorecard Basis and Accounting Education

BScs has been discussed for the first time at Harvard business school in 1992 by Robert (Kaplan and David Norton) who depended on drawing strategic vision and objectives as basic point. Halachmi (2005) indicated that the emergence of BScs was restricted on performance measurement only, and researchers discovered later on that can be used as a strategic tool to serve organization goals. Cokins (2004), explained that BScs model helped the Organization to move from organization leadership depending on their financial results to leadership concept driving out of its vision.

3.1 The Importance of Balanced Scorecard

BScs is known as a management system designed to help the organization to translate its vision, mission and strategy into a set of strategic objectives and measurements (Horngren et al, 2005). It is also known as a tool in which organization mission and strategy is are translated to objectives and specific measurements that contribute in the completion organization (Kaplan & Norton 2004). Abdel-Mohsen (2006) defined it as the first organized effort that aims to design a system to assess performance through institutions strategy is translated into specific objectives, targeted measurement and continuous improvement initiatives. Niven (2003) consider that BScs is a select group of quantified measurable indicators derived from Organization's key strategic that aims to deliver Organization performance results to all beneficiaries to enable them to achieve its mission and objectives.

Kaplan & Norton (2001), indicated that the reasons for emergence of BScs is the lack of comprehensive model that combines financial and non-financial scales in conjunction with each other, this means it provides a balanced view for performance evaluation of its various financial and non-financial aspects, internal and external, quantitative and qualitative, (Ray, 2012). As well as through the strategic dimension related to performance measurement at operational level for Organization's long term vision and strategy (Abdel-Mohsen, 2006).

Performance assessment is considered as one of important points that must be followed when implementing BScs

because it provides detailed information to stakeholders whether they are inside or outside the Organization to brief them on how Organization's ability achieve its vision and goals (Behn, 2003). So all must know that BScs is not retracted on higher education, or the private sector, but for all organizations, whether profit or non-profit, public or private. Martello, et al, (2008), study which was applied BScs on a not-for-profit institution. Some studies considered BScs idea is difficult to apply on public sector because it has nothing to do with innovation and institutional performance (Jiang, 2014). In this regard Giannopoulos et al, (2013) indicated that BScs is like a super power suitable for use on all Companies types and sizes because it has a significant impact on corporate performance measurement. Malgwi & Dahiru (2014), study showed BScs importance as an important tool in evaluating business performance of organizations from four perspectives, financial, customer, internal processes, learning and growth.

ElQuliti et al, (2013), study presented Hybrid University model for evaluating performance by using BScs in Saudi Electricity Company. FAROOQ & HUSSAIN (2011), study highlighted the role BScs in change for the better of Companies work and considered it as a tool for measuring organizational performance to predetermined goals by corporations, because it works to draw vision and strategy for companies. Sahiti et al, (2016) study evaluate the impact BScs to improve the performance and company's profitability, and concluded that BScs contributed in improving company's performance and profitability that have adopted the model BScs.

3.2 Balanced Scorecard Perspectives

BScs implementation in all organizations is not a random issue, but it should be introduced, in order to reach all the goals and visions drawn by organizations these include following: Financial Perspective; It is deemed as one of the most important measurement and evaluation scales in BScs since it provides a clear picture of all financial indicators which are linked to organization's performance to ensure that they contributed in organizations objectives achievement (Bose & Thomas, 2007). Kaplan & Norton (1992), indicated the financial perspective explains the company's financial presentation to shareholders. Niven (2003), also confirmed that the financial dimension is deemed one of the sustainable goals of organizations vision and mission. The financial perspective confirms operational income achieved results by reducing costs and selling more of the product units (ESTHER, 2013).

Customer Perspective; Customer's perspective is deemed very important because it determine Organization targeted income. Generally introducing new products, designs, quality and price should be taken in consideration, (Sulanjaku, 2014). As well as quality and the lead achievement in manufacturing products or providing services, (Salehia & Ghorbani, 2011). Customer satisfaction and meeting their wishes paying attention to comments or complaints received by them should be taken in consideration, Then providing services for the product even after selling the product (Al-Zwyalif, 2012).

Internal process Perspective; This perspective is based on the using the most effective methods of goods production, services delivery to customers, and pay attention to quality, cost and time savings concepts (Malgwi & Dahiru, 2014). The perspective, according to Gekonge (2005) in cited Kairu et al, (2013), "Internal processes perspective focuses on the internal business results that lead to financial success and satisfied customers".

Learning and Innovation Perspective; Strategic objectives are selected from this perspective based on available capacity in the Organization for employees, knowledge, technology and organizational culture (Fooladvanda et al, 2015). Since this perspective focuses on how organizations can train, educate and inform employees, and how to maintain a competitive advantage in their markets, (Binden et al, 2014). BScs include the following components, as described in the following figure:

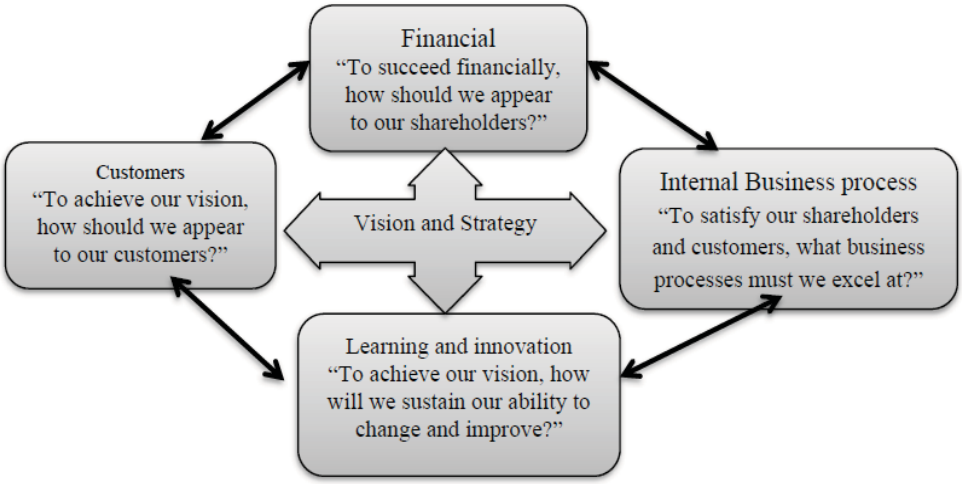

Figure 1. Balanced scorecard perspectives BScs

Source: Kaplan & Norton, 1996b, p.76.

3.3 Balanced Scorecard and Accounting Education

Pietrzak et al, (2015) study that was applied on public Universities. Giannopoulos et al, (2013), study indicated to the importance of using BScs as a tool to measure performance and draw strategy for all types of companies, even small ones. As well as Lawson, et al, (2006) study cited in Ridwan et al, (2012) considered that BScs is not exclusive to private businesses, but also for public sector and not-for-profit institutions. Northcott & Taulapapa (2012), study that aims to examine the use of the BScs as a performance management tool in the public sector, and to identify I the most important challenges that hinder it implementation.

Many researchers thought to consider BScs implementation for its importance in higher education field. Beard (2009), study indicated that BScs is suitable for use in higher education, due to is successful applications in this field. Wu, & Chang, (2012) Cited in CHIŢ, OPRIŞ (2014), indicated that the BScs has been widely applied to evaluate various sectors performance. Drtina, (2007), "Using the Balanced Scorecard for Value Congruence in an MBA Educational Setting". Sayed, (2013) "To examine the use of the Balanced Scorecard (BSC) in Universities".

Weerasooriya (2013), indicated that BScs as a strong model for strategic evaluation in every aspect of the Organization, such as higher education institutions. Zangoueinezhad & Moshabaki (2011) study also addressed University performance measurement using BScs based on knowledge. Wahba (2016) study reported the application of BScs in private educational institutions for their importance in measuring performance. Researchers also indicated that the idea of implementing BScs depends on University management (Stewart and Carpenter-Hubin, 2000). Or academic departments at the University (Lawrence & Sharma 2002). Herath et al, (2010) study noted that both top management and departments are cooperating partners in implementation BScs to achieve the goals of the organization.

In light of the success of the international Universities through applying BScs in higher education (Świerk & Mulawa, 2015). Most of prestigious Universities adopted BScs due to results achieved that contributed in improving financial, competitive levels and creating University environments that moved students into advanced stages in their markets. This was emphasized by International Conference working paper at the University of Cambridge, Pursglove & Simpson (2000), Rompho (2008), Lawrence & Sharma, (2002). The following statement shows the names of Universities that were concerned with BScs implementation to evaluate their performance.

Pingle & Natashaa (2001) cited In Binden et al, (2014) identifies three strategic dimensions in the University to be integrated with BScs strategy map, includes; the education sector, which focused on excellent education in selecting of university staff for an expanded market share for educational. Also researches sector; related to University staff and in their specialty field, the third dimension is awareness that points to maintain Universities as a regional institution for intellectual support to others.

4. Research Methodology

4.1 Survey Data, Target Sample and Reliability Test

In order to produce the study conclusion, the data collect from two sources; questionnaire, and articles, books, periodicals, and conference, in addition to internet sources. The society of study include; Academics in the

Accounting Specializations (Dean, Head of accounting department, and Academic staff), and administrators in Jordanian Universities were surveyed to collect data. The survey was conducted at the Eight Universities (University of Jordan, Mutah University, Yarmouk University, the Hashemite University, Petra University, al Ahliyya Amman University, Zarqa University, Tafila Technical University). The Personal Background of Respondents as the following table:

Table 1. Personal Background of Respondents

	Demographic variable	Frequency	Percent
Study sample	Academic	95	70.9
	Administrative	39	29.1
	Total	134	100.0
Education level	PHD	64	47.8
	Master	44	32.8
	Bachelor	26	19.4
	Total	134	100.0
Experience	Below 10 years	25	18.7
	10-20 years	47	35.1
	Above 20 years	62	46.3
	Total	134	100.0

One hundred and eighty-two of target sample of the questionnaire were served in the sampled of Jordanian Universities, (147) responses were received, representing a response rate of 81%. (13) of the questionnaire excluded from the statistical analysis because these had incomplete data on the study variables, resulting in a total of 134 usable responses. This gave an effective response rate of 74%.

The Reliability Test (Cronbach's Alpha) for variable study as the following table:

Table 2. Reliability Test

Hypothesis	No. of Items	Cronbach's Alpha
H11	7	.910
H12	8	.819
H13	6	.844
H14	6	.835
Total	31	.919

The Cronbach alpha (internal reliability) coefficient was obtained for each of the study variables and was a satisfactory; the values vary from (0.746 to 0.919).

4.2 Study Hypotheses and Descriptive Statistics

$H_1$1: The Financial Perspective with significant effective as a way to improve the Accounting Education in Jordanian Universities.

The Financial perspective was tested through the following questions

Table 3. Descriptive Statistics; H11

Items	Mean	S. D.
Depending on alternative financial sources resulted from scientific research, investment, subsidies, grants and assistance	3.478	1.3134
Availability of hardware and software equipment and buildings required	3.806	1.3516
Distribution of University revenue on projects included in their budgets at the beginning of the year	3.112	1.3963
Activating internal control department on all revenues and expenditure	2.955	1.5062
Achieve operational efficiency by exploiting its owner to develop academic work.	3.052	1.3999
Improving salaries and wages of faculty members and administrative	3.828	1.1274
Collection of tuition fees that suit the size of the student services	3.433	1.3789
H11	3.3806	1.09457

Table 3, Presents the Mean value is 3.3806 and Std. Deviation is 1.09457; The results as shown in above test revealed a significant positive relationship between financial perspective and improve the Accounting Education. From previous analysis it was found that financial perspective is effective in measuring performance of accounting departments, and is considered as an important dimension of BScs.

H12: The Student's Perspective with significant effective as a way to improve the Accounting Education in Jordanian Universities.

The Student's Perspective was tested through the following questions:

Table 4. Descriptive Statistics; H12

Items	Mean	S. D.
Providing distinguished academic services (books, magazines, classrooms, labs, and databases sites).	3.478	1.1680
Provide students with the intellectual skills, personal, ethical, communicate with others, and working as teamwork	3.418	1.2403
Investigating student's opinions and accepting their complaints and observations.	3.537	1.5002
Integrate students in cultural, social, sporting and technical activities	3.478	1.4803
Continuous communication with students after graduation	2.731	1.2754
Follow up study plans and update the same, and performing academic guiding.	3.209	1.3155
Provide students with accounting knowledge ,administrative, economic and technology during university stage	2.843	1.2853
Achieve University admission requirements for accounting students	2.888	1.3302
H12	3.1978	.88179

Table 4, Presents the Mean value is 3.1978 and Std. Deviation is .88179. The results as shown in above test revealed a significant positive relationship between students perspective and improve the Accounting Education. From previous analysis it was found that student's perspective is effective in performance appraisal of accounting education in Universities and is considered as an important dimension of BScs, therefore student satisfaction must be increased for all provided services.

H13: The Internal process Perspective with significant effective as a way to improve the Accounting Education in Jordanian Universities.

The Internal process Perspective was tested through the following questions:

Table 5. Descriptive Statistics; H13

Items	Mean	S. D.
Development students scientific and professional ' abilities to facilitate their communication with labour market after graduation	2.955	1.3812
Updating technology means related to teaching processes	3.381	1.2372
Cooperation development of between faculty members and management to work as one team	3.216	1.2038
Improving relations between accounting department and students	2.925	1.2423
Providing educational environment for students in terms of curriculum care and providing students with the required skills.	3.224	1.2840
Selecting deans, department heads, faculty and administrative members	3.448	1.2953
H13	3.1915	.95590

Table 5, Presents the Mean value is 3.1915 and Std. Deviation is .95590; The results as shown in above test revealed a significant positive relationship between internal process and improve the Accounting Education. From previous analysis it was found that internal process perspective is effective in performance appraisal of accounting education in Universities.

H14: The Learning and Innovation Perspective with significant effective as a way to improve the Accounting Education in Jordanian Universities.

The Learning and Innovation Perspective was tested through the following questions:

Table 6. Descriptive Statistics; H14

Items	Mean	S. D.
Development of academic skills, and advanced courses	3.127	1.4004
Support academics research culture	2.970	1.4763
Proper attention to quality standards that deal with education.	3.463	1.4749
Developing University environment that motivated excellence and innovation	3.291	1.4859
Development modern educational technical means and methods	3.157	1.3866
Continuous communication with labour markets and identifying its main needs and make it available for students before graduation.	3.552	1.2050
H14	3.2600	1.04264

Table 6, Presents the Mean value is 3.2600 and Std. Deviation is 1.04264; The results as shown in above test revealed a significant positive relationship between learning and innovation perspective and improve the Accounting Education. From previous analysis it was found that learning and innovation perspective is effective in performance appraisal of accounting education in Universities.

Table 7. Descriptive Statistics; Dependent Variable

Items	Mean	S. D.
Financial perspective	2.970	1.4763
Students perspective	3.425	1.4477
Internal process perspective	3.351	1.3833

Learning and innovation perspective	3.157	1.3866
Performance of Accounting Education	3.2257	1.07294

Table 7, Presents the Mean value is 3.2257, and Std. Deviation is 1.07294; The results as shown in above test revealed a significant positive relationship between perspectives of balanced scorecard and improve the Accounting Education.

4.3 Hypothesis Testing

A SPSS approach was used to analysis of the proposed hypotheses. Data analysis was conducted using multiple regression models as a means of relating a dependent variable AE (y) to four independent variables (X1), (X2), (X3) and (X4). The form of multiple regression models is as shown in equation; The random error term is added to make the model probabilistic rather than deterministic.

$$Y = a + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4 \ldots\ldots\ldots \beta n\ Xn \quad (1)$$

$$AE = a + \beta 1\ FP + \beta 2\ SP + \beta 3\ IPP + \beta 4\ LIP + \varepsilon \quad (2)$$

where;

y is the dependent variable, y represents Accounting Education (AE)

α: Constant (predictors) in regression equation when X= 0

Where:

β0; intercept;**β1, β2, β3**, and **β4**: represent the coefficients of regression model.

X: Independent variables, Balanced Scorecard (BScs)

X1: represents financial perspective, (FP)

X2: represents Students perspective, (SP)

X3: represents internal process perspective, (IPP)

X4: represents learning's and innovation perspective. (LIP)

ε: random error

The Balanced Scorecard (BScs) and its effect on performance of Accounting Education in Jordanian Universities, can be examined by performing the following multiple regression model

$$AE\ (y) = 1.870 + .578\ X1 + .395\ X2 + .335\ X3 + .993\ X4 + \varepsilon \ldots. \quad (3)$$

Main hypothesis; *H1: Balanced Scorecard with significant effective importance as a way to improve the Accounting Education in Jordanian Universities.*

The results to test study hypothesis by using multiple regression analysis as the following tables (8) and (8) a.

Table 8. R Square and ANOVA test

R Square			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.590	.348	.343	.86952
		ANOVA	
	F		Sig.
	17.213		.000

Table 8, Presents the R Square and ANOVA test. The results as shown in above test revealed a significant positive relationship between Balanced Scorecard (BScs) and improve the Accounting Education. To test the main hypothesis by using Multiple Regression analysis, Value R equal .590, and value F equal 17.213, is significant at ($\alpha \leq 0.05$) level. This means, accept alternative hypothesis (H1).

The results of Beta and T test as the following table for all independents variables:

Table 9. Beta and T test results

Hypothesis	Path	β	*t*	Decision
H11	Financial perspective Accounting education	0.584	8.397	Supported
H12	Customer perspective	0.324	3.938	Supported

	Accounting education			
H13	Internal process Accounting education	0.298	3.592	Supported
H14	Learning and innovation Accounting education	0.965	42.350	Supported

Note. ** Sig. < 0.05

Table 9, shows the results of the regression analysis for study hypotheses; The results indicate positive relationship between balanced scorecard and improve the accounting education. To test first hypothesis H11, (β = 0.584, t= 8.397, *Sig.* < 0.05) indicate a positive relationship between Financial perspective and improve the Accounting education supporting H11. Test of H12, The results of multiple regression indicate that the overall model is statistically significant between the student's perspective and improve the accounting education, where (β = 0.324, t= 3.938, *Sig.* < 0.05) supporting H12. Likewise, the results between the internal process perspective and improve the accounting education, where (β = 0.298, t= 3.592, *Sig.* < 0.05) this means accepting H13. To test H14, The results is statistically significant between the learning's, innovation perspective and improve the accounting education, where results (β = 0.381, t= 4.351, *Sig.* < 0.05) supporting H14.

5. Conclusion

The study aimed activating (BScs) importance as a way to improve the Accounting Education in Jordanian Universities. The study population consisted of Academic staff at accounting departments and managers of units in Jordanian Universities. To the best of researcher knowledge, the study is the first at the level of accounting departments in Jordanian Universities. The practical implications; This study may assist Jordanian Universities to better understand the importance of BScs to improve performance of accounting departments, which in turn lead to higher levels of improvement in education performance. And future benefits from use of balanced scorecard.

The study concluded that there is a statistically significant positive relationship between implementation of BScs and improve performance of accounting education. This was confirmed by the following studies; Nofel & potora (2017); Pietrzak, et al, (2015), Al-Hosaini & Sofian (2015); Deshpande (2015); Fooladvanda et al, (2015); Özpeynirci et al, (2015); Binden et al, (2014); Al-Zwyalif (2012); Sordo et al, (2012); Zangoueinezhad & Moshabaki (2011); where a asserted that financial indicators, students, internal processes, learning's and innovation contribute in performance success of accounting education, in terms of alternative sources of funding existence, providing buildings as classrooms, offices and modern technological equipment, increase salaries and wages to academic staff, activating internal controls of all revenues and expenditures related to University budgets, and achievement of principle of operational efficiency, to have importance in improving accounting education performance.

It also emphasized to pay attention to students, and on providing academic services such as books, magazines, classrooms, labs, database sites, and provide students with intellectual skills, personal, ethical, communication with others, and teamwork, also surveying students, accepts complaints and their comments, involving students in cultural, social activities, sports and art, continuous communication with students after graduation, meeting admission requirements for accounting students, providing students with knowledge of accounting, managerial administrative, economic and technological, and also the skills during University stage. The development the University environment that motivated excellence and innovation. The study also concluded that selection of skilled deans, department heads, staff and managerial, and supporting scientific research culture for academics, and paying attention to quality standards that deal with education that have an important role in the success of accounting education.

The paper presented a set of recommendations including; Developing strategic plans and visions that illustrate steps accounting departments at Universities aspire. Coordination and cooperation between different departments represented by University presidency, Business school Dean, head of accounting departments, academic staff, and manager of units to implement BScs. Expanding admission processes for qualified students. Providing students with the intellectual skills, personal, ethical, and communicate with others and teamwork. Using all financial resources in a way that achieve University and student interest. Performance awareness meetings for students and taking their views and solve problems facing them and involved in extracurricular activities.

Also Supporting scientific research and educational books for teaching staff, mandating accounting department's academics to advanced courses that are linked with University Performance. Developing research culture among academic staff and provide updated databases, support their participation in world conferences, and issuing referee scientific journals. Keeping contact with the labour markets to meet student's needs. To develop and updating curriculums updating and applying international accounting education standards. Holding annual introducing conferences and forums for deans and accounting departments, and developing obligatory introducing mechanism

for international accounting education standards for the purpose of reaching targets the Universities wish to achieve. Seeking for providing other funding sources derived from scientific research. International marketing of accounting departments in coordination with Universities, cultural exchange agreements, and try to attract students from around the world.

References

Abdel-Mohsen, T. (2006). Modern trends in the evaluation and management excellence: Six Sigma and Balanced measurement card, Dar Arab Thought, Cairo.

Ahmed, M., & Solayman, M. (2015). Maximizing Strategic Performance Results: Adopting Balanced Scorecards and BI Tools. *International Journal of Computer Applications, 117*(10). http://research.ijcaonline.org/

Alfrijat, Y. & Shbeilat, M. (2016). Jordanian Universities and Their Role in the Trend towards the Development of Technical Competence for Accounting Learning Outcomes in Line with IES #2.*Accounting and Finance Research.* 5(2). doi:10.5430/afr.v5n2p20.

Al-Hosaini, F., & Sofian, S. (2015). A Review of Balanced Scorecard Framework in Higher Education Institution (HEIs). *International Review of Management and Marketing, 5*(1), 26-35. www.econjournals.com

AlMotairy, O., & Stainbank, L. (2014). Compliance with International Education Standards in Saudi Arabia: Policy and Educational Implications. *Journal of Business Studies Quarterly, 5*(4).

Al-Zwyalif, I. (2012). The Possibility of Implementing Balanced Scorecard in Jordanian Private Universities. *International Business Research, 5*(11). https://doi.org/10.5539/ibr.v5n11p113

Beard, D. F. (2009). Successful applications of the balanced scorecard in higher education. *Journal of Education for Business, 84*(5), 275-282. https://doi.org/10.3200/JOEB.84.5.275-282

Behn, R. (2003). Why Measure Performance? Different Purposes Require Different Measures. *Public Administration Review, 63*(5), 88-110. https://doi.org/10.1111/1540-6210.00322

Binden, W., Mziu, H., & Suhaimi, M. (2014). Employing the Balanced Scorecard (BSC) to Measure Performance in Higher Education – Malaysia. *International Journal of Information and Communication Technology Research, 4*(1). http://www.esjournals.org/. January 2014

Blasch, S. (2012), The applicability of the Balanced Scorecard as a tool to evaluate the strategy in the Algerian economic enterprise - case study of some institutions, Unpublished Master Thesis, Ferhat Abbas University, Sétif, Algeria. Available on: http://www.univ-setif.dz

Bose S., & Thomas, K. (2007). Applying the balanced scorecard for better performance of intellectual capital. *Journal of Intellectual Capital, 8*(4), 659. https://doi.org/10.1108/14691930710830819

Chena, F. H., Hsua, T. S., & Tzeng G. H. (2011). A balanced scorecard approach to establish a performance evaluation and relationship model for hot spring hotels based on a hybrid MCDM model combining DEMATEL and ANP. *International Journal of Hospitality Management, 4*(4). https://doi.org/10.1016/j.ijhm.2011.02.001

CHIŢ, A., & OPRIŞ, M., E. (2014). Importance of financial perspective indicators in Balanced Scorecard in a leasing company. *Theoretical and Applied Economics, 18*(59), 59-68. http://store.ectap.ro/

Cokins, G. (2004), Performance Management: Finding the Missing Pieces, John Wiley & Sons, INC, New Jersey.

Deshpande, B. (2015). Application of Balanced Score Card in Higher Education with special emphasis in a Business School. *International Conference on Technology and Business Management. March 23-25,* 2015. http://www.ictbm.org/

Drtina, R., James P. G., & Ilan, A. (2007). Using the Balanced Scorecard for Value Congruence in an MBA Educational Setting. *Sam Advanced Management Journal, 72*(1), 4-13.

Elgeuoshy, O. A., & Abdrabou, M. (2015). STRATEGIC PLANNING IN EGYPTIAN HIGHER EDUCATION FROM TOWS TO BALANCED SCORECARD: THE CASE OF ITLI. *Journal of Psychology and Social Studies, IX*(5)-2015. https://www.researchgate.net

ElQuliti, S., Alidrisi, H., & AlYamani, A. (2013). A Hybrid Model for Performance Evaluation and Improvement Using Balanced Scorecards and Analytic Hierarchy Process: The case of Saudi Electricity Company. *Journal of Innovative Engineering, 1*(1). http://www.ijiert.org/

ESTHER, A. (2013). STRATEGIC DECISION MAKING, BALANCED SCORECARD PROFITABILITY:

ISSUES and CHALLENGES. *International Journal of Accounting Research, 1*(1). http://www.omicsonline.com/

FAROOQ, A., & HUSSAIN, Z. (2011). BALANCED SCORECARD PERSPECTIVE ON CHANGE AND PERFORMANCE: A STUDY OF SELECTED INDIAN COMPANIES. *Journal of Global Strategic Management, 5*(2), 2011-December isma.info. 37-48.

Fooladvanda, M., Yarmohammadianb, M., & Shahtalebic, S. (2015). The Application Strategic Planning and Balance Scorecard Modelling in Enhance of Higher Education. Published by Elsevier Ltd. Procedia - *Social and Behavioral Sciences, 186*(2015). 950-954. 5th World Conference on Learning, Teaching and Educational Leadership, WCLTA 2014. http://www.khuisf.ac.ir/

Gekonge, C. O. (2005). What a System! *The Professional Journal of KASNEB, 4.*

Giannopoulos, G., Holt, A., Khansalar, E., & Cleanthous, S., (2013). The Use of the Balanced Scorecard in Small Companies. *International Journal of Business and Management, 8*(14), 1-22. https://doi.org/10.5539/ijbm.v8n14p1

Halachmi, A. (2005). Introduction: Performance Measurement is only way of Managing Performance. *Journal of productivity and performance Management, 54*(7). https://doi.org/10.1108/17410400510622197

Hallman, P. (2005), The role of causality in the balanced scorecard framework, Master's thesis, Department of Industrial Economics and Management, Royal Institute of Technology, Stockholm.

Herath, H., Bremser, W., & Birnberg, J. (2010). Joint selection of balanced scorecard targets and weights in a collaborative setting. *Journal of Accounting and Public Policy, 29*(1). https://doi.org/10.1016/j.jaccpubpol.2009.10.002

Horngren, C. T., Sundem, G. L., & Stratto, W. O. (2005). Introduction To Management Accounting, 13th. ed., Upper Saddle River: New Jersey, Prentice Hall.

Ismail, T., & Al-Thaoiehie M. (2015). A Balanced Scorecard Model for Performance Excellence in Saudi Arabia's Higher Education Sector. *International Journal of Accounting, Auditing and performance Evaluation, 11*(3-4), 255-280. https://doi.org/10.1504/IJAAPE.2015.071574

Jiang, D. L. (2014). Research on Application of Balanced Scorecard in the Government Performance Appraisal. *Open Journal of Social Sciences, 2,* 91-96. Published Online September 2014 in SciRes. https://doi.org/10.4236/jss.2014.29016

Kairu, E., Wafula, M., Okaka, O., Odera, O., & Akerele, E. (2013). Effects of balanced scorecard on performance of firms in the service sector. *European journal of business and management, 5*(9), 81-89.

Kald, M., & Nilsson, F. (2000). Performance measurement at Nordic Companies. *European Management Journal, 18*(1), 113-127. https://doi.org/10.1016/S0263-2373(99)00074-2

Kaplan, R., & Norton D. (2001). Transforming the Balanced Scorecard from Performance Measurement to strategic Management: Part2. *Accounting Horizon, 15*(2).

Kaplan, R., & Norton D. (2004). Measuring the Strategic Readiness of Intangible Assets. *Harvard Business Review, 1*(2), 113- 131.

Kaplan, R., & Norton, D. (1992). The Balanced Scorecard – Measure That Drive Performance. *Harvard Business Review, January-February, 70*(1), 71-79.

Kaplan, R., & Norton, D. (1996). Using the balanced scorecard as strategic management system. Harvard business review, Jan –Feb, 1996.

Kettunen, J., & Kantola, I. (2005). Management information system based on the Balanced Scorecard. *Campus-Wide Information Systems, 22*(5). 263-274. https://doi.org/10.1108/10650740510632181

khatoon, S., & Faroog, A. (2014). Balanced Scorecard to Measure Organizational Performance: A Case Based Study. *The International Journal Of Business & Management, 2*(9), 106-113. www.theijbm.com

Lawrence, S., & Sharma, U. (2002). Commodification of Education and Academic Labour - Using the Balanced Scorecard in a University Setting. *Critical Perspective on Accounting, 13,* 661-677. https://doi.org/10.1006/cpac.2002.0562

Lawson, R., Stration, W., & Hatch, T. (2006). Score carding goes global. *Strategic Finance, 87*(9), 34-44.

Malgwi, A., & Dahiru, H. (2014). Balanced Scorecard financial measurement of organizational performance: A

review. *IOSR Journal of Economics and Finance (IOSR-JEF), 4*(6), 01-10. https://doi.org/10.9790/5933-0460110

Malmi, T. (2001). Balanced scorecards in Finnish companies: a research note". *Management Accounting Research, 12*(2), 207-220. https://doi.org/10.1006/mare.2000.0154

Martello, M., Watson, J., & Fischer, M. (2008). Implementing A Balanced Scorecard In A Not-For-Profit Organization. *Journal of Business & Economics Research, 6*(9), September 2008.

Niven, P. R. (2003). Balanced scorecard: Step-by-step for government and nonprofit agencies. John Wiley and Sons, New Jersey.

Nofel, S., & Potora, F. (2017). The Level of University Performance Using Advanced Balanced Score Card: an Empirical Study of Tebessa University – ALGERIA. *Arab Journal for Quality Assurance in higher education, 10*(27). https://doi.org/10.20428/AJQAHE.10.1.6

Northcott, D., & Taulapapa, T. M. (2012). Using the balanced scorecard to manage performance in public sector organizations: Issues and challenges. *International Journal of Public Sector Management, 25*(3), 166-191. https://doi.org/10.1108/09513551211224234

Özpeynirci, R., Yücenurşen, M., Apak, İ., & Pola, Y. (2015). A comparative analysis of accounting education's effectiveness with the balanced scorecard method: A case study of KMU. *Procedia - Social and Behavioral Sciences, 174,* 1849-1858. https://doi.org/10.1016/j.sbspro.2015.01.847

Pietrzak, M., Paliszkiewicz, J., & Klepacki, B. (2015). The application of the balanced scorecard (BSC) in the higher education setting of a Polish university. *Journal of Applied Knowledge Management, 3*(1). http://www.iiakm.org/

Pingle, S., & Natashaa, K. (2001). Performance Management in Institutes of Higher Education Through Balanced Scorecard: A Conceptual Study. *GFJMR, 2.*

Pursglove, J., & Simpson, M. (2000), A Balanced Scorecard for University Research. 2nd. International Conference on Performance Measurement, 467-47). Cambridge.

Ray, S. (2012). Balanced Vision from Balanced Scorecard for Corporate Strategic Management. *Journal of Expert Systems, 1*(1).

Ridwan, R., Harun, H., An., Y., & Fahmid, I., M. (2012). The Impact of the Balanced Scorecard on Corporate Performance: The Case of an Australian Public Sector Enterprise. *International Business Research; 6*(10). https://doi.org/10.5539/ibr.v6n10p103

Rigby, D. (2001). Management tools and techniques: a survey. *California Management Review, 43*(2), 139-160. https://doi.org/10.2307/41166079

Rompho, N. (2008). Building the Balances Scorecard for the University Case Study: The University in Thailand. *Journal in Professional Accountancy, 4*(9), 55-67.

Sahiti, A., Ahmeti, S., Sahiti, A., & Aliu, M. (2016). The Impact of Balanced Scorecard on Improving the Performance and Profitability of the Implementing Companies. *Mediterranean Journal of Social Sciences. 7*(4). https://doi.org/10.5901/mjss.2016.v7n4p60

Salehia, M., & Behzad, G. B. (2011). A Study of Using Financial And Non-Financial Criteria In Evaluating Performance: Some Evidence Of Iran. *Serbian Journal of Management, 6*(1), 97-108. https://doi.org/10.5937/sjm1101097S

Sarea, A., & Alrawahi, F. (2014). Bridging the Gap between the Perceptions of Accounting Students and Accounting Practitioners: Evidence from Ahlia University of Bahrain. *Jordan Journal of Business Administration, 10*(4). https://doi.org/10.12816/0025746

Sayed, N. (2013). Ratify, reject or revise: balanced scorecard and Universities. *International Journal of Educational Management, 27*(3), 203-220. https://doi.org/10.1108/09513541311306440

Self, J. (2004). Metrics & management: applying the results of the balanced scorecard. *Performance Measurement and Metrics, 5*(3), 101-105. https://doi.org/10.1108/14678040410570111

Sordo, C., Orelli. R. L., Padovani, E., Silvia & Gardini, S. (2012). Assessing global performance in universities: an application of balanced scorecard. *Procedia - Social and Behavioral Sciences, WCES 2012, 46,* 4793-4797. Open access under CC BY-NC-ND license.

Stewart, A. C., & Carpenter-Hubin, J. (2000). The Balanced Scorecard Beyond Reports and Rankings. *Planning*

for Higher Education, 29(2), 37-42.

Sulanjaku, M. (2014). The Perspectives of Using Balanced Scorecard in Intangibles Measurement and Management in Albania. *International Journal of Managerial Studies and Research (IJMSR), 2*(9), 132-139. www.arcjournals.org

Świerk, J., & Mulawa, M. (2015). The Balanced Scorecard for Higher Education — the Case of Maria *Curie-Skłodowska University, 3*(41), 169-178. http://cejsh.icm.edu.pl/

Umashankar, V., & Dutta, K. (2007). Balanced scorecards in managing higher education institutions: an Indian perspective. *International Journal of Educational Management, 2*(1), 54-67. https://doi.org/10.1108/09513540710716821

Wahba, M. (2016). Balanced Scorecard in Higher Education Applied case study on Arab Academy for Science, Technology and Maritime Transfer. *International Journal of Scientific Research and Innovative Technology, 3*(5), May 2016.

Watty, K., Sugahara, S., Abayadeera, N., Perera, L., & McKay, J. (2014). Towards a Global Model of Accounting Education. *Accounting Research Journal, 27*(3), 286-300. https://doi.org/10.1108/ARJ-08-2013-0054

Weerasooriya, W. M. R. B. (2013). UNIVERSITIES STRATEGIC EVALUATUION USING THE BALANCED SCORECARD (BSC) – FOCUS ON INTERNAL BUSINESS PROCESS PERSPECTIVE (IBPP). *International Journal of Business, Economics and Law, 2*(1). (June)

Wu, I. L., & Chang, C. H. (2012). Using the balanced scorecard in assessing the performance of e-SCM diffusion: A multi-stage perspective. *Decision Support Systems, 52*(1), 474-485. https://doi.org/10.1016/j.dss.2011.10.008

Zangoueinezhad, A., & Moshabaki, A. (2011). Measuring University performance using a knowledge‐based balanced scorecard. *International Journal of Productivity and Performance Management, 60*(8), 824-843. https://doi.org/10.1108/17410401111182215

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Theories' Gap of international Technological Entrepreneurship Opportunities

Mohammad Amin Keshmiri Hagh[1], Mohammad Hassan Mobaraki[2], Jahangir Yadollahi Farsi[2], Ali Mobini Dehkordi[2]

[1]PhD Candidate in Entrepreneurship, Faculty of Entrepreneurship, University of Tehran, Tehran, Iran

[2]Associate Professor, Faculty of Entrepreneurship, University Of Tehran, Tehran, Iran

Correspondence: Mohammad, Hassan Mobaraki, Associate Professor, Faculty of Entrepreneurship, University of Tehran, Tehran, Iran

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Abstract

Most scholars believe that for recognition and exploiting entrepreneurial opportunities the traditional models and theories of don't have the required efficiency in the technological and international contexts since the liner nature of these models aren't compatible with these situations and needs nonlinear models to identify and exploit these opportunities. Therefore, applying suitable and new strategies are inevitable to provide customers' requirements with uncertainties in the technological and international contexts. In this study, the theories about international technological entrepreneurship opportunities are discussed and the theoretical gaps were investigated. The review revealed that some questions are in this field that have not been regarded in the current theories and more studies should be conducted based on these topics to answer the theoretical gaps.

Keywords: technology entrepreneurship, international entrepreneurship, international technological entrepreneurial opportunities

1. Introduction

The exploitation of international entrepreneurship opportunities by technological SMEs can lead to their high growth (Peng & Delios, 2006) And it's vital to them because small and medium-sized enterprises involved in international markets got dramatic improvements in their performance.(Baldwin & Gu, 2003)

In the technological fields there are many evidences that show the pure uncertainty and these are a lot of technological solutions that fail even with high investments. An increasing number of studies on entrepreneurial opportunities have emerged on the entrepreneurship landscape in recent times(Busenitz, Plummer, Klotz, Shahzad, & Rhoads, 2014)

Based on the trend analysis of Busenitz et al. (2014) , research on entrepreneurial opportunities will continue to increase, and will, therefore, become the most important topic in the field of entrepreneurship.

There have been many request and asking the researchers to combine entrepreneurship studies with international entrepreneurship research so that create fundamental and theoretical bases related to the international opportunities(Chandra, Styles, & Wilkinson, 2009; Mainela, Puhakka, & Servais, 2014)

Getting value and competitive advantage from technological entrepreneurial opportunities emergence is one of the important factors for technological enterprises.so the creation theory has great position in the international technological enterprises. Entrepreneurial opportunities in the future couldn't be predicted with the present knowledge and information especially in the technological fields. Mostly the disruptive technologies cause that prediction of these opportunities impossible.

These types of international technological opportunities embrace uncertainty that was mentioned by (Knight, 1921) With fast changing technologies trends, most technological entrepreneurial opportunities are Schumpeterian and these can be seen as the opportunities that through creative destruction move markets towards disequilibrium when entrepreneurs invent new solutions (Schumpeter, 1934)

Creation theory tries to explain and investigate the entrepreneurial opportunities formation and their exploitation in the Knightian uncertainty of the entrepreneur.(S. A. Alvarez & Barney, 2005)

In the international technological contexts because of pure uncertainty, prediction is impossible and traditional models couldn't explain the international technological entrepreneurial opportunities emergence and exploitation and they don't have complete efficiency. With rapid technological inventions and changes, there has been great shift in the business paradigm and many international opportunities have been emerged and a lot of new international ventures created with high growth and high value creation for example, eBay 1.3 B$, Facebook 33 B$, WhatsApp 22 B$(Alimadadi, Bengtson, & Hadjikhani, 2018)

In this study international technological entrepreneurship opportunity concept have been addressed and the gap among present theories in this area have been discussed.

2. International Entrepreneurship Opportunities

International Entrepreneurship (IE) is inherently a cross-disciplinary research field that combines international business and entrepreneurship (Jones, Coviello, & Tang, 2011; McDougall & Oviatt, 2000).

Along the conceptual developments in its root theories, international opportunities have been set in the core of the research field(Mainela et al., 2014; Oviatt & McDougall, 2005)

However, in International Entrepreneurship research, the international opportunity concept is used in very diverse ways, as a concept in the theoretical frameworks, as a variable in questionnaires or a topic in interview guides, and in conceptualizing and modelling research results.(Mainela, Puhakka, & Wakkee, 2017)

There are many definitions of international opportunities. Casulli (2009) defines international entrepreneurial opportunities as " an opportunity to create value in organizations through a combination of innovative, proactive and risk-seeking behavior that crosses national borders" (p. 22) Or Ciravegna, Majano, and Zhan (2014) defines international entrepreneurial opportunities as "the first finalized contract for the sale of products to a client based in a foreign market where the firm had not previously operated" (p. 1084) Or according to the Ellis (2011) definition international entrepreneurial opportunities is ""the chance to conduct exchange with new partners in new foreign markets" (p. 101).

Also there are other definitions that show other aspects of this concept for example Hurmerinta, Nummela, and Paavilainen-Mäntymäki (2015) defines international entrepreneurial opportunities as "the potential the decision-maker sees for exchanging goods and services in selected markets" (p.1084) Or according to the Mainela et al. (2014) definition international entrepreneurial opportunities as "a situation that both spans and integrates elements from multiple national contexts in which entrepreneurial action and interaction transform the manifestations of economic activity" (p. 120) Or Muzychenko and Liesch (2015) defines international entrepreneurial opportunities as " the likelihood of conducting exchange with new or existing partners, such as foreign intermediaries or foreign customers, in new international markets" (p.705) Indujeeva K Peiris, Michèle Akoorie, and Paresha Sinha (2015) mention the international entrepreneurial opportunities as the "a situation in which new goods and services are introduced across national borders through formation of means-ends relationships that delivers superior value! (p.196) "

And finally Zahra, Korri, and Yu (2005) define as "in an iterative process, where the entrepreneur revises her (his) concept several times" (p.139)

In international entrepreneurship, the identifying international entrepreneurship opportunities is an emerging concept and its importance has grown. Although there were several calls in different Entrepreneurship research journals about discussions related international opportunities(for example (ET & P, (2014), Volume 29, Issue 2) it has not yet been provided a comprehensive theoretical framework for understanding the process related to the recognition and seizing the international opportunities. (Indujeeva K. Peiris, Michèle Akoorie, & Paresha Sinha, 2015)

3. Technological Entrepreneurship Opportunities

According to the process of technology entrepreneurship is about" recognizing, creating, and exploiting opportunities, and combining the resources around a technological solution, Irrespective of the organizational context" (Bailetti, 2012; Ratinho, Harms, & Walsh, 2015; Spiegel & Marxt, 2011)

The technological solution opens up new possibilities, it allows the reduction of transactional costs(Williamson, 2005) and it has the ability to apply new technology product paradigm to provide a solution to a market gap(Ratinho et al., 2015)

Technology entrepreneurship differs from general entrepreneurship and it focuses on technological opportunities that require deep technological as well as managerial capabilities.(Prahalad & Hamel, 2000; Walsh & Linton, 2011)

In other words, it requires a higher level of technical capabilities and management of a risky environment(Harms, Marinakis, & Walsh, 2015)
Alternatively, it involves the same opportunity identification, organization, and execution found in any other form of entrepreneurship but around a focused technology and a business model that makes it unique.(Tripathi & Brahma, 2018)

According to Antonic&Pordan(2008) technological entrepreneurship (or its synonyms, i.e. entrepreneurship, techno-entrepreneurship, and tecnoentrepreneurship) consists of "a set of behaviours and actions that drive the market process (and also a strategy) which is based on identifying high potential, technology-intensive commercial opportunities, gathering/assembling resource and managing rapid growth and significant risk with the final aim to exploit those opportunities for value creation"(Antoncic & Prodan, 2008)

also technological entrepreneurship has been defined as "the recognition or even the creation of potential business value of new discoveries and technologies, to the matching with existing and/or potential market needs, and finally the transformation of opportunities arising in commercial products, services and new businesses (Petti, 2009)

4. The Emergence Process and Exploitation of Technological International Entrepreneurship Opportunities

There are different approaches toward the international technological entrepreneurship opportunities emergence. the process approach is one of them.(Davidsson, 2005)

Davidsson (2005) mentions that there are some process models in the field related to the opportunity recognition and exploitation and he notes that given the fact that these process models are experimental so it is thought that applying these models is the context dependent. He also mentions this question that which one is the best process. By this question, two different entrepreneurial process models were introduced, the by Bhave (1994) and S. D. Sarasvathy (2001) models , arguing that most of the real-world processes are at the point between these two types of linear processes (Analytical and programmed) and emerging (creative and repetitive), and the superiority of one model to another depends on the proportion of the type of process and other key factors, i.e. the entrepreneur, the environment and the opportunity features or idea.(Jamali, Kazemi, Farsi, & Dehkordi, 2018) Therefore, the entrepreneurial process in the proper sense, it presents a model with entrepreneurial elements. The important part of this model is that we could not see any direct relationship between process and performance, and, the process success depends on its fitness with the idea , opportunity and the context features and the entrepreneur (Davidsson, 2005)

Considering the appropriateness between the idea and the entrepreneur and context, the theoretical background and previous studies mention to the fact that entrepreneurs are searching the ideas that can use their own unique motivates, hobbies and competencies in them, which is fundamental in the resource based view. This appropriateness is compatible with the Impact Model (S. Sarasvathy, 2008), which starts with entrepreneurial resources. Also, the bricolage theory (Baker & Nelson, 2005) focuses on the available resources use of by an entrepreneur.

Another approach related to the international technological entrepreneurship opportunities emergence is the resource based theory.

S. A. Alvarez, & Busenitz, L. W. (2001) emphasized applying the resource based approach in the entrepreneurship theory and investigated the relationship between resource based theory and entrepreneurship. They pointed to the heterogeneity as a common characteristic between two resource based theory and entrepreneurial theory. But in the resource based theory, the focal point is on the resource heterogeneity, but the focal point of the entrepreneurship theory is on heterogeneity in the thought and idea that there is the valuable resource that enables entrepreneurs to transform homogeneous resources into heterogeneous outputs and have a better choice than others. The main question in the application of resource-centered theory in entrepreneurship is that of the source of heterogeneous sources of entrepreneurship.(Jamali et al., 2018)

Available resources make asymmetry in the looking for the new source competition (Wernerfelt, 2011). This argument is accordance with the first type of path dependence, which was suggested by S. A. Alvarez and Barney (2007) and mentioned the explicitly in the theory of action because entrepreneurs responded to the questions "Who am I? What I know and who I know." And finally, the answer to the question" What can I do? in the theory of action, "(S. Sarasvathy, 2008)

Another important concept that has great effect on the international technological entrepreneurship opportunities is the uncertainty. The creation theory of international technological opportunities emphasize on the role

uncertainty .so the outcomes of the exploitation of these type of opportunities are unclear and unpredictable.(S. A. Alvarez & Barney, 2007)

According to this theory, two conceptualization of the international technological entrepreneurship could be found, first international technological entrepreneurship is considered as the output of the low level uncertainty understanding, and the second the international technological entrepreneurship is the output of the eagerness to bear the uncertainty (Bauer, Bell, Nelson, & Calhoun, 2017)

The final theory that is fundamental in the entrepreneurial opportunities emergence especially in the technological and international context is the institutional theory. institutions are described as human structures that make social, economic, and political norms and values and human beings relations (North, 1990)

Institutional theory in the international entrepreneurship researches especially in the technological contexts has the position in the following areas: the first research area investigates the effects of institutional circumstances on entrepreneurship, in which the developed institutional contexts develops entrepreneurship and improves the appropriateness of the institutional environment for entrepreneurial activities. The second part is related to the relationship between legitimacy and entrepreneurial activities and focus on how entrepreneurs are seeking legitimacy for their businesses. In fact, entrepreneurs have to form the desired actions and structures according to the social system of their context because otherwise they will be isolated by avoiding from accepted social values and finally is the institutional entrepreneurship. The concept of institutional entrepreneurship answers the question of how new institutions are constructing and modifying. (Bruton, Ahlstrom, & Li, 2010)

5. Theoretical Gaps

Exploitation of international entrepreneurship opportunities is a widespread phenomenon that has been studied in the last few decades. It has been investigated from different theoretical perspectives. Although ,entrepreneurial behaviors focusing on international entrepreneurship opportunities in International Entrepreneurship are Important, but the international opportunities are often expressed in an unspecified way, and the international entrepreneurship research suffers from little or no theoretical discussion and consistency of the concept of international entrepreneurship opportunities.(Mainela et al., 2014)

On the other hand exploitation of international entrepreneurship opportunities by technological SMEs can lead to their high growth (Peng & Delios, 2006) and it's vital to them because these types of enterprises involved in international markets got dramatic improvements in their performance.(Baldwin & Gu, 2003)

Technological entrepreneurship opportunities are one of the key elements in the Technological entrepreneurship and it has multiple dimensions and nature. With new technological changes and high value creation by technological enterprises, the technological entrepreneurship has gained so much attention and importance especially in the international levels.

Technological entrepreneurship opportunities are defined as the possibilities to create new products, which originate from the divergence of beliefs towards the future value of previously un-exploited technologies.(Petti & Zhang, 2011)

Nowadays, there are many technological small and medium enterprises that grow internationally rapidly and exploit technological entrepreneurial opportunities internationally.

The stage models failed to explain why entrepreneurial firms enter international markets soon after their inception.(Peiris, 2014)

IE theorists argued that it is the unique entrepreneurial knowledge and capabilities that allow firms to identify and exploit opportunities in international markets(Autio, Sapienza, & Almeida, 2000)

However, IE theory falls short in explaining how this knowledge and these capabilities contributed to opportunity identification and subsequent behavior of the firm.(Peiris, 2014)

There is little explanation about the process or the individuals required abilities to identify international entrepreneurship opportunities. (Andersson & Evers, 2015)

Researchers in the field of International Entrepreneurship emphasize that there should be more research on how the international opportunities are recognized and exploited in the International context especially in technological fields. How to identify and exploit international technological opportunities and the capabilities needed for this process in technological International Small and Medium enterprises are the key research areas and questions that should be investigated .(Andersson & Evers, 2015)

Although there are many researches are conducted based on the questions about how the entrepreneurship

opportunities are discovered and exploited in international markets and what capabilities are required but the literature of international entrepreneurship research is still substantially lacking maturity .(Jones et al., 2011)

Another important research gaps that should be addressed in international entrepreneurship opportunities especially in technological fields is the transformation between opportunities under discovery theory and creation theory. Identifying the conditions and circumstance that these two types of opportunities transforms to each other requires more research.(S. A. Alvarez & Barney, 2010)

The nature of technological entrepreneurship opportunities in the international context are complex and unpredictable and when there is the situation that both creation and discovery processes are conducted about international technological entrepreneurship opportunities, the decision making and the methods and tools that are used should be a dilemma.so these situations require more research to be investigated.(S. A. Alvarez, Barney, & Anderson, 2013)

6. Discussion and Conclusion

The exploitation of international entrepreneurship opportunities by technological small and medium-sized enterprises can lead to their high growth and it's vital to them because small and medium-sized enterprises involved in international markets got dramatic improvements in their performance. International technological entrepreneurship introduce new technological products or services in the international contexts and these types of entrepreneurs exploit entrepreneurial opportunities based on the technological changes in the international markets and because they create new technological products or services then create market for it these are based on the creation theory of the entrepreneurship. Based on these studies although the international technological entrepreneurship opportunities play an important role in these research areas but there are many issues that should be investigated.

References

Alimadadi, S., Bengtson, A., & Hadjikhani, A. (2018). How does uncertainty impact opportunity development in internationalization? *International Business Review, 27*(1), 161-172. https://doi.org/10.1016/j.ibusrev.2017.06.002

Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 6*(27), 755-775. https://doi.org/10.1177/014920630102700609

Alvarez, S. A., & Barney, J. B. (2005). How do entrepreneurs organize firms under conditions of uncertainty? *Journal of management, 31*(5), 776-793. https://doi.org/10.1177/0149206305279486

Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic entrepreneurship journal, 1*(1-2), 11-26. https://doi.org/10.1002/sej.4

Alvarez, S. A., & Barney, J. B. (2010). Entrepreneurship and epistemology: The philosophical underpinnings of the study of entrepreneurial opportunities. *Academy of Management annals, 4*(1), 557-583. https://doi.org/10.5465/19416520.2010.495521

Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science, 24*(1), 301-317. https://doi.org/10.1287/orsc.1110.0727

Andersson, S., & Evers, N. (2015). International opportunity recognition in international new ventures—a dynamic managerial capabilities perspective. *Journal of International Entrepreneurship, 13*(3), 260-276. https://doi.org/10.1007/s10843-015-0149-5

Antoncic, B., & Prodan, I. (2008). Alliances, corporate technological entrepreneurship and firm performance: Testing a model on manufacturing firms. *Technovation, 28*(5), 257-265. https://doi.org/10.1016/j.technovation.2007.07.005

Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of management Journal, 43*(5), 909-924.

Bailetti, T. (2012). Technology entrepreneurship: overview, definition, and distinctive aspects. *Technology Innovation Management Review, 2*(2), 5. https://doi.org/10.22215/timreview/520

Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative science quarterly, 50*(3), 329-366. https://doi.org/10.2189/asqu.2005.50.3.329

Baldwin, J. R., & Gu, W. (2003). Export‐market participation and productivity performance in Canadian

manufacturing. *Canadian Journal of Economics/Revue canadienne d'économique, 36*(3), 634-657. https://doi.org/10.1111/1540-5982.t01-2-00006

Bauer, D. M., Bell, K. P., Nelson, E. J., & Calhoun, A. J. (2017). Managing small natural features: A synthesis of economic issues and emergent opportunities. *Biological Conservation, 211*, 80-87. https://doi.org/10.1016/j.biocon.2017.01.001

Bhave, M. P. (1994). A process model of entrepreneurial venture creation. *Journal of business venturing, 9*(3), 223-242. https://doi.org/10.1016/0883-9026(94)90031-0

Bruton, G. D., Ahlstrom, D., & Li, H. L. (2010). Institutional theory and entrepreneurship: where are we now and where do we need to move in the future? *Entrepreneurship theory and practice, 34*(3), 421-440. https://doi.org/10.1111/j.1540-6520.2010.00390.x

Busenitz, L. W., Plummer, L. A., Klotz, A. C., Shahzad, A., & Rhoads, K. (2014). Entrepreneurship research (1985–2009) and the emergence of opportunities. *Entrepreneurship theory and practice, 38*(5), 981-1000. https://doi.org/10.1111/etap.12120

Casulli, L. (2009). Exploring opportunity creation in internationalizing SMEs: Evidence from Scottish firms. *Internationalisation, entrepreneurship and the smaller firm: Evidence from around the world*, 20-36. https://doi.org/10.4337/9781848447363.00010

Chandra, Y., Styles, C., & Wilkinson, I. (2009). The recognition of first time international entrepreneurial opportunities: Evidence from firms in knowledge-based industries. *International Marketing Review, 26*(1), 30-61. https://doi.org/10.1108/02651330910933195

Ciravegna, L., Majano, S. B., & Zhan, G. (2014). The inception of internationalization of small and medium enterprises: The role of activeness and networks. *Journal of Business Research, 67*(6), 1081-1089. https://doi.org/10.1016/j.jbusres.2013.06.002

Davidsson, P. (2005). The types and contextual fit of entrepreneurial processes. *International Journal of Entrepreneurship Education, 2*, 4,407-430.

Ellis, P. D. (2011). Social ties and international entrepreneurship: Opportunities and constraints affecting firm internationalization. *Journal of international business studies, 42*(1), 99-127. https://doi.org/10.1057/jibs.2010.20

Harms, R., Marinakis, Y., & Walsh, S. T. (2015). Lean startup for materials ventures and other science-based ventures: under what conditions is it useful? *Translational materials research, 2*(3), 035001.

Hurmerinta, L., Nummela, N., & Paavilainen-Mäntymäki, E. (2015). Opening and closing doors: The role of language in international opportunity recognition and exploitation. *International business review, 24*(6), 1082-1094. https://doi.org/10.1016/j.ibusrev.2015.04.010

Jamali, B., Kazemi, R. M., Farsi, J. Y., & Dehkordi, A. M. (2018). The Study on the Theories' Gap of Technological Entrepreneurship Opportunities Emergence. *International Business Research, 11*(2), 79. https://doi.org/10.5539/ibr.v11n2p79

Jones, M. V., Coviello, N., & Tang, Y. K. (2011). International entrepreneurship research (1989–2009): a domain ontology and thematic analysis. *Journal of business venturing, 26*(6), 632-659. https://doi.org/10.1016/j.jbusvent.2011.04.001

Knight, F. H. (1921). Risk, uncertainty and profit. *New York: Hart, Schaffner and Marx*.

Mainela, T., Puhakka, V., & Servais, P. (2014). The concept of international opportunity in international entrepreneurship: a review and a research agenda. *International Journal of Management Reviews, 16*(1), 105-129. https://doi.org/10.1111/ijmr.12011

Mainela, T., Puhakka, V., & Wakkee, I. (2017). International Opportunities and Value Creation in International Entrepreneurship *Value Creation in International Business* (pp. 55-80): Springer. https://doi.org/10.1007/978-3-319-39369-8_3

McDougall, P. P., & Oviatt, B. M. (2000). International entrepreneurship: the intersection of two research paths. *Academy of management Journal, 43*(5), 902-906.

Muzychenko, O., & Liesch, P. W. (2015). International opportunity identification in the internationalisation of the firm. *Journal of World Business, 50*(4), 704-717. https://doi.org/10.1016/j.jwb.2014.12.001

North, D. C. (1990). A transaction cost theory of politics. *Journal of Theoretical Politics, 2*(4), 355-367. https://doi.org/10.1177/0951692890002004001

Oviatt, B. M., & McDougall, P. P. (2005). Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship theory and practice, 29*(5), 537-554. https://doi.org/10.1111/j.1540-6520.2005.00097.x

Peiris, I. K. (2014). *Entrepreneurial Dynamics of Internationalising Ventures: The Opportunity-Value Creation Nexus.* University of Waikato.

Peiris, I. K., Akoorie, M., & Sinha, P. (2015). Conceptualizing the Process of Opportunity Identification in International Entrepreneurship Research. In M. J. Manimala & K. P. Wasdani (Eds.), *Entrepreneurial Ecosystem: Perspectives from Emerging Economies* (pp. 193-218). New Delhi: Springer India. https://doi.org/10.1007/978-81-322-2086-2_8

Peiris, I. K., Akoorie, M., & Sinha, P. (2015). Conceptualizing the process of opportunity identification in international entrepreneurship research *Entrepreneurial Ecosystem* (pp. 193-218): Springer.

Peng, M. W., & Delios, A. (2006). What determines the scope of the firm over time and around the world? An Asia Pacific perspective: Springer.

Petti, C. (2009). *Cases in technological entrepreneurship: Converting ideas into value*: Edward Elgar Publishing. https://doi.org/10.4337/9781848449312

Petti, C., & Zhang, S. (2011). Explaining technological innovation in Chinese enterprises: Insights from technological entrepreneurship. *Frontiers of Business Research in China, 5*(3), 452. https://doi.org/10.1007/s11782-011-0140-5

Prahalad, C. K., & Hamel, G. (2000). The core competence of the corporation *Strategic learning in a knowledge economy* (pp. 3-22): Elsevier.

Ratinho, T., Harms, R., & Walsh, S. (2015). Structuring the Technology Entrepreneurship publication landscape: Making sense out of chaos. *Technological forecasting and social change, 100*, 168-175. https://doi.org/10.1016/j.techfore.2015.05.004

Sarasvathy, S. (2008). Effectuation: Elements of entrepreneurial orientation: Edward Elgar Publishing, Cheltenham, UK. https://doi.org/10.4337/9781848440197

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of management review, 26*(2), 243-263. https://doi.org/10.5465/amr.2001.4378020

Schumpeter, J. A. (1934). Change and the Entrepreneur. *Essays of JA Schumpeter*.

Spiegel, M., & Marxt, C. (2011). *Defining Technology Entrepreneurship.* Paper presented at the Industrial Engineering and Engineering Management (IEEM), 2011 IEEE International Conference on. https://doi.org/10.1109/IEEM.2011.6118191

Tripathi, S. S., & Brahma, M. (2018). Technology Entrepreneurship in Emerging Markets: An Exploration of Entrepreneurial Models Prevalent in India. *Technology Innovation Management Review, 8*(1), 24. https://doi.org/10.22215/timreview/1131

Walsh, S. T., & Linton, J. D. (2011). The strategy-technology firm fit audit: a guide to opportunity assessment and selection. *Technological forecasting and social change, 78*(2), 199-216. https://doi.org/10.1016/j.techfore.2010.06.023

Wernerfelt, B. (2011). Invited editorial: The use of resources in resource acquisition. *Journal of management, 37*(5), 1369-1373. https://doi.org/10.1177/0149206310371693

Williamson, O. E. (2005). Transaction cost economics and business administration. *Scandinavian Journal of Management, 21*(1), 19-40. https://doi.org/10.1016/j.scaman.2005.02.002

Zahra, S. A., Korri, J. S., & Yu, J. (2005). Cognition and international entrepreneurship: implications for research on international opportunity recognition and exploitation. *International business review, 14*(2), 129-146. https://doi.org/10.1016/j.ibusrev.2004.04.005

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Corporate Social Responsibility Disclosure and Firm Performance of Malaysian Public Listed Firms

Mohd Waliuddin Mohd Razali[1], Winnie Hii Sin Sin[1], Janifer Anak Lunyai[1], Josephine Yau Tan Hwang[1], Irma Yazreen Md Yusoff[1]

[1]Faculty Economic and Business, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia

Correspondence: Mohd Waliuddin Mohd Razali, Faculty Economic and Business, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia.

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Abstract

Corporate Social Responsibility (CSR) disclosure has become a rising concern for the public listed firms worldwide due to its ability to enhance firm's market performance and financial performance. The main objective of this study is to investigate the relationship between CSR disclosure and firm performance of Bursa Malaysia's listed companies based on their market value added (MVA), return on equity (ROE) and return on assets (ROA). 324 samples of public listed companies' annual report for the period of 2014 to 2016 were obtained from Bursa Malaysia and examined. The extent of their CSR disclosure were measured and analyzed. After accounting for control variables such as firm size, firm age, firm leverage and firm liquidity, the result shows that there is a positive significant relationship between CSR disclosure and firm performance in terms of ROA and ROE. This reveals that high level of CSR disclosure helps firms to achieve optimum performance through increased competitiveness, improved firm's image amongst society, and creates new opportunities in the marketplace. The findings also showed mix results among the control variables towards firm performance. For future research, this paper recommends to extend the study by using different CSR disclosure measurement, different firm performance measurement such as return on investments (ROI) and Tobin's Q and different samples.

Keywords: corporate social responsibility disclosure, firm performance, market value added

1. Introduction

For many years, there has been a significant growth in the awareness and practices of Corporate Social Responsibility (CSR) disclosure worldwide. CSR disclosure has been a rising concern for the public listed companies as Malaysia is one of the emerging capital markets. On 14th December 2006, Bursa Malaysia requires all listed companies to report their CSR actions in their annual report (Bursa Malaysia Securities Berhad, 2015). Bursa Malaysia has prepared a CSR framework in 2006 that acts as a guideline for listed companies to report their CSR activities and practices. Although the practice of CSR in Malaysia is completely voluntary and not mandatory, the disclosure of CSR activities is known to provide better transparency. As a result many companies in Malaysia are actively engaging themselves with CSR activities not only to meet the requirement, but also to gain corporate image and competitive advantage. For example, DiGi Telecommunications Sdn. Bhd. as one of the mobile communication firms in Malaysia has well practice CSR disclosure. DiGi had been awarded the "Best overall CSR Programme" in Prime Minister's CSR Awards in 2007 for its efforts and contributions to the society through CSR activities (Wahari, 2007).

The inclusion of CSR activities in annual report is believed to encourage more investors to invest in the firms due to the notion of responsible business conduct has the potential of influencing customers' purchasing behavior which leads to increase in sales of products and customers' loyalty to the brand and hence enable the firms to survive and have better firms' performance in the competitive market. Although all listed companies in Malaysia has disclosed their CSR activities and practices in the annual report, a generic conclusion can be made that these organizations are only focused on certain aspects of CSR especially those that provides them with the highest visibility such as philanthropy and public relation part of CSR that concerns the community and society. Thus, it is crucial to discover the relationship between CSR disclosure and firm performance in term of market and accounting performance to encourage more firms in Malaysia to practice CSR disclosure. It is because the efforts

toward better CSR practices is vital to create superior development of economy and capital market in Malaysia.

Most of the abroad researchers claimed that CSR has a positive impact on firms' performance. Accounting-based financial indicators like return on equity (ROE) and return on assets (ROA) are widely used to evaluate the firms' performance. In Malaysia, Yusoff and Adamu (2016) discovered that the relationship between CSR disclosure and financial performance in term of ROE and ROA were mostly positive. The stakeholders have more confidence toward the firms that well practicing CSR disclosure would increase when the firms were concerned about the issues in society. Therefore, stakeholders will fully support any ethical actions of the firms to improve firms' performance. This implies that firms' performance can be enhanced by practicing good CSR activities.

On the other hand, market-based financial indicator like market value added (MVA) is less used in earlier studies. The MVA acts as an indicator of how well a firm is able to create returns to investors as well as act as a signal whether the firm has strong leadership and sound governance. CSR disclosure and MVA were found to have mixed relationship. Fooladi and Kolaie (2015) claimed that CSR disclosure had positive impact on MVA. CSR activities could increase the stock price of firms because investors were more confidence with the firms. Meanwhile, it was argued by Dewi, Sudarma, Djumahir, and Ganis (2014) that there was no connection between CSR disclosure and MVA. It was claimed that MVA is derived from other aspects, especially aspects related to return of equity. This indicated that MVA was not totally influenced by company's CSR activities, but also affected by yield of shareholders' capital. Thus, the influence of CSR on improving MVA was small.

There are numerous literatures that explained the effect of CSR disclosure towards firms' performance in Western and European countries, but no works have been done in Malaysia in term of market value added. This causes the extent of the CSR disclosure affecting firms' performance of listed companies in Bursa Malaysia to be less noticeable. Thus, this study is an initiative to further examine the extent of CSR disclosure relationship with firms' performance in term of MVA, ROE and ROA as prior results were inconsistent. This study is designed to fill the gap for earlier studies and offered enhanced evidences in this field.

2. Literature Review

Stakeholder theory has been extensively used by empirical researchers to describe the link between CSR disclosure and firm performance. Based on stakeholder theory, CSR activities had effects on revenues and costs. CSR activities could create extra revenue directly or indirectly. Purchasing behavior of customers had direct effect on a company's revenues. With rising consciousness of social and environmental concerns, customers were demanding with CSR related products and remaining loyal to the brands (Servaes & Tamayo, 2013). Consumer-oriented CSR activities also include intangible elements such as reputation for quality and trustworthiness, which could create product differentiations and generate more revenues (Lev, Petrovits, & Radhakrishnan, 2010).

The positive relationship between CSR disclosure and firm performance had stayed strong among most of the prior empirical studies. Most of the abroad researchers claimed that the CSR disclosure and financial performance indicators like return on assets (ROA) and return on equity (ROE) had positive relationship. Researchers like Mittal, Sinha and Singh (2008), Fooladi and Kolaie (2015), Mujahid and Abdullah (2014), Kabir and Hanh (2017), Uadiale and Fagbemi (2012), Kanwal, Khanam, Nasreen, and Hameed (2013), Yusoff and Adamu (2016), and Dkhili and Ansi (2012) found the existence of positive effect of CSR on firm performance. A study by Mittal, Sinha and Singh (2008) stated that there was a slight proof that firms with code of ethics had produced additional market value added (MVA) than those without codes. A firm with code of ethics would create significantly more MVA than a firm without the code. These firms had more desirable reputation and image in the marketplace. Then, the desirable reputation and image of firm increased the investors' confidence and thus increased the MVA of firm. Besides, Fooladi and Kolaie (2015) examined that the state of CSR disclosure and MVA of listed companies had a relationship. The state of CSR disclosure could affect the operating performance of the firms by increasing the interest of investors to invest in the firm. This is because CSR actions have increased the firm's stock price which led to a better firm performance.

In addition, CSR has a positive association with return on equity (ROE), return on assets (ROA), earnings per share and price of stock (Mujahid and Abdullah, 2014). This research compared the financial performance and shareholders wealth of CSR firms with non-CSR firms. It was found that CSR concept helped the firms to achieve optimum financial performance in the competitive surroundings by increasing the competitiveness of firms. Other than that, firms that actively involved in CSR activities were found to experience higher financial performance than other firms. Kabir and Hanh (2017) explained that CSR activities helped to enhance the reputation of firms in the eyes of public. Besides, Vietnamese firms that actively involved in CSR activities were also found to experience higher financial performance than other firms. It was because involvement of firms in

CSR activities could increase the intention of investors to play parts in Vietnamese firms and increase the loyalty of customers towards the brands. The previous findings by Uadiale and Fagbemi (2012) revealed that earnings of organization increased when the firm increased CSR activities. Firm's spending on CSR activities was found to improve the ROE and ROA of firm. CSR activities could create new opportunities in the marketplace and improve image of firm in the society. Kanwal, Khanam, Nasreen, and Hameed (2013) also stipulated that CSR associated with ROA and ROE of the firm positively. Kanwal et al. (2013) added that Pakistani firms' spent on employees' wellbeing to keep existing employees and invited potential employees by building high confidence investors and employees toward the firms. As a result, firms' expenditure on CSR helped the firms to have a long-term supportable development and boosted financial performance of firms.

Also, research by Dkhili and Ansi (2012) debated that CSR and ROE is positive related. The positive relationship between CSR and ROE was due to the presence of stakeholders would improve performance in term of economic. In other words, a company with stakeholders that have more favorable behavior than competitors would have a greater level of financial performance. In Malaysia, Yusoff and Adamu (2016) viewed that positive relationship existed between CSR with ROE and ROA. The comprehensive financial managing could be effectively achieved through proper CSR exercises. Companies' performance could be improved by enhancing good CSR practice. Yusoff and Adamu (2016) also added that sufficient implementation of workplace activities by firms were associated with firms' financial performance. It was pointed out that workplace activities were connected with human capital, value of portfolios and expenses on operating activities directly.

On the other hands, there were few researchers who claimed that CSR disclosure and MVA, ROA and ROE did not have any relationship, such as Dewi et al. (2014) and Kamatra and Kartikaningdyah (2015). Dewi et al. (2014) pointed out that CSR had no effect on MVA. It was refuted that CSR had very little influence on increasing MVA as MVA was also determined from the economic aspects such as inflation and GDP. Increase in MVA does not produce gain directly and could not increase the social actions of firm. Kamatra and Kartikaningdyah (2015) had expressed the view that CSR had no effect on ROE. CSR did not affect ROE because some of the investors did not care about the CSR activities done by the firms as CSR activities was thought as an imaging.

Based on the above literature review, most of the studies claimed that the CSR disclosure and financial performance has a positive relationship (such as Mittal, Sinha & Singh, 2008; Fooladi & Kolaie, 2015; Mujahid & Abdullah, 2014; Kabir & Hanh, 2017), hence we hypothesized our study as follow:

H_1: There is relationship between CSR disclosure and firm performances.

3. Methodology

3.1 Sample

The sample in this study was drawn from a set of public listed firms from different sectors, such as Consumer Products, Construction, Properties and Trading-Service in Bursa Malaysia. The final sample includes 324 firms after the removal firms without complete annual reports. The study periods were three years, which is from year 2014 to 2016. In this research, researchers used secondary resources to collect data of Corporate Social Responsibility (CSR) disclosure from annual reports of firms. The financial data of dependent variables such as market value added (MVA), return on equity (ROE) and return on assets (ROA) and control variables like firm's size, age, leverage and liquidity were collected from DataStream by Thomson Reuters.

3.2 Corporate Social Responsibility (CSR) Disclosure

CSR disclosure is an instrument for organizations to include social and environmental concerns voluntarily into their operations and relations with stakeholders, which goes beyond the organization's responsibility in regulation (Kusumadilaga, 2006). To measure the disclosure level of CSR in the annual reports, a content analysis approach was adopted. Bowman (1978) came out with the idea of content analysis is an inquiry process which does not rely on casual reading but on rather explicit counting and coding of particular lines of prose, of word usage and of disclosure. The measurement of disclosure was an unweighted count on the number of words on CSR's themes in the annual report. Usage of word counts method assisted in shielding against irregularities in calculating the quantity of disclosure (Zeghal and Ahmed, 1990). In this study, 4 main themes or areas of CSR recommended by Bursa Malaysia to be examined were Environment, Community, Workplace and Marketplace. The words "Environment", "Community", "Workplace" and "Marketplace" which appeared in the annual reports were scanned and counted by using computer.

3.3 Market Value Added (MVA)

MVA is a performance measurement tool that calculates increase in the value of the firm's stock price. Investors

always use MVA to estimate the efficiency of management team of firm on using its capital to increase shareholders' value. A positive value of MVA indicates that the firm has improved in value. A negative value of MVA indicates that the value of firm is destroyed. Berceanu, Siminica, and Circiumaru (2010) have used ratio of change in market value added of the year to total equity of the year to measure MVA.

The measurement of MVA:

$$\text{MVA} = \frac{\text{Change in market value added of the year}}{\text{Total equity of the year}}$$

3.4 Return on Equity (ROE)

ROE can test the capability of firm to generate profits from the equity. ROE can show the effectiveness of firm using their capital to generate profits. A high ROE indicates the firms management is running efficiently. Kamatra and Kartikaningdyah (2015) have used net income to total equity to measure ROE.

The measurement of ROE:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}$$

3.5 Return on Assets (ROA)

ROA is used to examine the ability of firms to effectively use its assets to generate profit. A high ROA indicates that the firm is able to achieve higher earnings from its assets and that the firm's assets are used efficiently to generate profits. Dkhili and Ansi (2012) have used net income over total equity to measure ROA. As for this study, the measurement of ROA is as follows:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

3.6 Regression Model

The multiple regression analysis was used to measure the relationship between Corporate Social Responsibility (CSR) disclosure and firm performance in term of market value added (MVA), return on equity (ROE) and return on assets (ROA), while control variables like firm age, firm leverage, firm liquidity, and firm size were adopted to test their effect toward firm performance. The multiple regression model allowed greater flexibility as we were able to control the variables that influence the dependent variables explicitly.

Functional form: Firm Performance = f (CSRD, firm age, firm leverage, firm liquidity, firm size)

Full model:

$$FP_{i,t} = \alpha_{i,t} + \beta_1 CSRD_{i,t} + \beta_2 AGE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 LIQ_{i,t} + \beta_5 LSIZE_{i,t} + \varepsilon_{i,t}$$

Where:-

Dependent variables

FP = firm performance is expressed in terms of:

MVA = Market value added of firm

ROE = Return on equity of firm

ROA = Return on assets of firm

Independent variable

CSRD = Corporate Social Responsibility disclosure

Control variables

AGE = Firm age

LEV = Firm leverage

LIQ = Firm liquidity

LSIZE = Natural logarithms of total assets

4. Results and Discussion

4.1 Descriptive Statistics

Table 1 reveals that the mean of market value added (MVA) for the sample firms is 0.0426 times and varies from -2.9878 times (minimum) to 5.2713 times (maximum). The gap between minimum and maximum score of MVA for this study is quite high. The standard deviation is 0.6310 times. MVA is used to measure market-based performance which calculated by measured by ratio of change in market value added of the year to total equity of the year. ROE is the second dependent variable. ROE is measured by ratio of net income to total equity. The average ROE for sample companies is 0.0765 or 7.65% and ranging from -0.6817 to 0.9507 or ranging from -68.17% to 95.07%. The standard deviation is 15.10%. ROA is the third dependent variable. ROA is a measured ratio of net income over total assets. The mean of ROA for the sample firms is 5.12% with a minimum value of ROA at -21.67% and maximum value at 42.55%. The standard deviation of ROA is 7.32%.

Table 1 also displays the descriptive statistics related to mean of the corporate social responsibility (CSR) disclosure. CSR disclosure in the study was measured by using content analysis of word counts. The number of words appeared in annual reports such as “environment”, “community”, “marketplace”, and “workplace” were counted. CSR disclosure in the study has mean of 29.6337 words (range from 3.0000 words to 300.0000 words). The standard deviation lied on 31.0155 words. Table 1 also showed descriptive statistics for control variables in the study. The firm age (AGE) which was calculated by difference between current year to year to incorporation date had an average of 29.1543. The minimum and maximum value for AGE were 3 years and 82 years respectively. The standard deviation of firm age was 14.8648 years. The firm leverage represented by LEV with a mean of 0.2505 times is calculated by ratio of total liabilities to total assets. The range of firm leverage is from the lowest number of 0.0004 times to the highest number of 0.7981 times with standard deviation of 0.1689 times. The firm liquidity represented by LIQ with a mean of 2.7821 times was calculated by ratio of total assets to total liabilities. The range of firm liquidity is from minimum value of 0.1206 times to the maximum value of 45.8595 times with standard deviation of 3.4604 times. Furthermore, firm size represented total assets before natural logarithms has the lowest number of RM23.209 million and highest number of RM133000 million. It has a mean of RM3200 million with standard deviation of RM11100 million.

Table 1. Summary of Descriptive Statistics

Variable	Mean	Min	Max
MVA	0.0426	-2.9878	5.2713
ROE	0.0765	-0.6817	0.9507
ROA	0.0512	-0.2167	0.4255
CSR	29.6337	3.0000	300.0000
AGE	29.1543	3.0000	82.0000
LEV	0.2505	0.0004	0.7981
LIQ	2.7821	0.1206	45.8595
TA (RM ’million)	3200	23.2090	133000

4.2 Pearson's Correlation Coefficient Test

Table 2 shows that MVA has a positive correlation with ROA and ROE at 1% significant level. MVA also has a negative correlation with CSR at 5% and a negative correlation with LSIZE at 1% significant level. ROA is second measurement of performance has positive correlation with ROE and LIQ at significant level of 0.01. ROE is the third dependent variable positively correlated with CSR and LSIZE at 1%. CSR as independent variable has positive relationship with LEV at 1% significant level. Meanwhile, for control variables, LEV has positive correlation with LSIZE and negative correlation with LIQ at 1%. LIQ has negative correlation with LSIZE at 1% significant level. Correlation does not exist between AGE and LIQ and LSIZE.

Table 2. Pearson's correlation

	MVA	ROA	ROE	CSR	AGE	LEV	LIQ	LSIZE
MVA	1.0000							
ROA	0.2065***	1.0000						
	0.0000							
ROE	0.1367***	0.8594***	1.0000					
	0.0000	0.0000						
CSR	-0.0716**	0.0171	0.0900***	1.0000				
	0.0257	0.5939	0.0050					
AGE	-0.0480	0.0267	0.0404	-0.0035	1.0000			
	0.1346	0.4057	0.2078	0.9121				
LEV	-0.0144	-0.0165	0.0446	0.0841***	0.1044***	1.0000		
	0.6546	0.6079	0.1650	0.0087	0.0011			
LIQ	-0.0082	0.1441***	0.0494	-0.0846***	0.0156	-0.3119***	1.0000	
	0.7975	0.0000	0.1241	0.0084	0.6267	0.0000		
LSIZE	-0.1275***	0.0243	0.1092***	0.5194***	0.0403	0.2180***	-0.1607***	1.0000
	0.0001	0.4488	0.0006	0.0000	0.2093	0.0000	0.0000	

***. Correlation is significant at the 0.01 level, **, 0.05 level, ** and 0.10 level.

4.3 Multiple Regression Analysis

Table 3. Summary of Panel Data and Analysis

	MVA model	ROA model	ROE model
Constant	9.5427	-0.3266	-0.8761
	0.0000	0.0280	0.0072
CSR	0.0004	0.0002*	0.0004*
	0.8054	0.0535	0.0916
LSIZE	-1.0167***	0.0852***	0.1987***
	0.0001	0.0000	0.0000
AGE	-0.0274	-0.0117***	-0.0244***
	0.2952	0.0000	0.0000
LEV	1.0207**	-0.1786***	-0.4095***
	0.0170	0.0000	0.0000
LIQ	-0.0169	0.0031***	0.0036*
	0.1577	0.0002	0.0509
R^2	0.4348	0.7903	0.7636
Adjusted R^2	0.1465	0.6833	0.6430
F	1.5083	7.3860	6.3312
Sig	0.0000	0.0000	0.0000

***. Indicate significant at the 0.01 level, **, 0.05 level, * and 0.10 level

Table 3 presents panel data results of MVA (Model 1), ROA (Model 2) and ROE (Model 3).

$$FP_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 LSIZE_{it} + \beta_3 AGE_{it} + \beta_4 LEV_{it} + \beta_5 LIQ_{it} + \epsilon_{it}$$

In order to see the relationship between Corporate Social Responsibility (CSR) disclosure and these variables, equations were re-estimated by substituting the dependent variable, Market Value Added (MVA) with Return on Assets (ROA) and Return on Equity (ROE). Table 4.5 summarized the results of the Panel data. Accordingly, equation (1) includes a wider set of dependent variables, like MVA, ROA and ROE represented Model 1, 2, and 3 respectively as different measurements of firm performance.

CSR disclosure was expected to have positive relationship with firm performance in term of MVA, ROE and ROA. The results summarized in Table 3 showed that coefficient value of CSR was 0.0004, 0.0004, and 0.0002 respectively. Based on Model 2 and Model 3, there was a positive significant relationship between CSR and firm performance in term of ROA and ROE with p-value of 0.0535 and 0.0916 respectively. The p-value was less than the level of significance at 0.10. The higher the disclosure level of CSR, the better the firms' performance. Firms' investment on CSR helped the firms to have long-term supportable development and boosted financial performance of firms. The results were consistent with Mujahid and Abdullah (2014) who concluded that CSR has a positive association with ROA and ROE. It was claimed that CSR concept helped the firms to achieve optimum financial performance in the competitive surroundings by increasing the competitiveness of firms. Firm's spending on CSR activities was found to improve the ROE and ROA of a firm. In addition, CSR activities could create new opportunities in the marketplace and improve image of firm in the society (Uadiale and Fagbemi, 2012). The results of Model 2 and Model 3 had strengthened that CSR has a significant positive

relationship with firm performance in term of ROA and ROE. However, the findings in Model 1 indicated that MVA is positively insignificant to CSR. The overall outcome was consistent with the study made by Dewi et al. (2014), where there is a positive significant relationship between CSR with ROA and ROE, while positive insignificant relationship between CSR and MVA. Dewi et al. (2014) had enlightened that CSR indexes had supported firms for image building, reputation maintenance and legitimacy of investors to increase capacity of firms which could influence the competitiveness of firms. CSR index is also able to reflect the disclosure level of firms' CSR activities. The high disclosure level of CSR provided trust and increased the desire of investors to play their roles in firms. When more capitals were obtained by the firms, more investments could be done by the firms, and hence the higher the ROE. As a result, CSR is able to provide good financial performance in the form of good ROA and ROE. However, it was refuted by Dewi et al. (2014) that CSR had no effects on increasing MVA. MVA was used to measure effect of managerial performance and influenced by many other economic aspects such as inflation and gross domestic product (GDP). Therefore, increase in CSR activities did not have effect on MVA and this had led to insignificant relationship between CSR and MVA.

Based on Model 2 and Model 3 in Table 4.5, there is positive significant relationship between firm size with ROA and ROE. The p-value of ROA and ROE were 0.0000, which were less than the level of significance at 0.01. The bigger the firm's size, the better the firms' performance in term of ROA and ROE. This outcome is consistent with Kabir and Thai (2017), Babalola (2013) and Ofuan and Izien (2016). These prior researchers claimed that in emerging countries, larger firms have more resources to have better equipment and professional experts than smaller firms to improve firms' profitability because they had more bargaining power over the market. However, in Model 1, there was negative significant relationship between firms' size and MVA at 1% significance level. This means that the smaller the firm's size, the better the firms' performance in term of MVA. This result was consistent with Hannan and Freeman (1989) where smaller firms were more creative and innovative where they could easily transform to enhance their values if compared with larger firms.

Next, there is a negative significant relationship between firm age with ROA and ROE. The p-value of ROA and ROE were both 0.0000, which were less than the level of significance at 0.01. The younger the firms, the better the firms' performance in term of ROA and ROE. However, in Model 1, there was negative insignificant relationship between firms' age and MVA. The younger the firm's age, the better the firms' performance in term of MVA. The outcome of negative significant relationship between firm age with ROA and ROE was supported by Loderer and Waelchli (2010) where the negative relation of firm age and firm performance could be due to inelasticity and inertia of organizational to identify and involve new innovation in the firm. Contrary, the outcome was inconsistent with prior studies made by Fooladi and Kolaie (2015), Kabir and Thai (2017), and Ofuan and Izien (2016), where these researchers claimed that there was positive significant relationship between firm age and firm performance. These researchers clarified that knowledge of effective production techniques was found to be increase over time and thus improved the performance of the firm which was parallel to the theory of learning by doing. Therefore, old firms would have a better firm performance if compared to younger firms.

Furthermore, firm leverage has a positive relation with ROA and ROE. The p-value of ROA and ROE are 0.0000, which were less than the level of significance at 0.01. The lower the firm's leverage, the better the firms' performance in term of ROA and ROE. Similar results were found by Fooladi and Kolaie (2015) and Kabir and Thai (2017). Fooladi and Kolaie (2015) observed that growing firms were more conservative when using debt financing in order to maximize their performance. Low level of firm leverage is needed by growing firms as they have low intention of paying high interest. The growing firms also did not totally depend on debt to finance their operating activities as they had more chances to involve in flexible investments. The retained earnings of the firms are also enough for them to finance the firm's activities. However, in Model 1, there is positive significant relationship between firms' leverage and MVA at 5% significance level with p-value of 0.0170. The positive significant relationship between firms' leverage and MVA is consistent with past researchers like Modigliani and Miller (1963) and Jensen (1986). The action of firm on using obligation to finance firms' operating activities would increase the value of firms (Modigliani and Miller, 1963). Then, Jensen (1986) had concluded that rises in debt level would raise the firms' market value by keeping low bankruptcy costs. This is because Jensen (1986) found that profitable firms would use more financial leverage to solve the agency problem happened between shareholders and managers which due to inconsistency of interests. To maximize market value of firms, financial leverage was used by shareholders to change the aims of managers on maximizing their own interests only and decrease the agency costs related with equity (Jensen, 1986). Hence, the higher the firm's leverage, the better the firms' performance in term of MVA.

The final variable, which is firm liquidity has a positive significant relationship with ROA and ROE. The p-value

of ROA is 0.0002, which is less than the level of significance at 0.01. Meanwhile, the p-value of ROE was 0.0509, which is less than the level of significance at 0.10. The higher the liquidity of the firms, the better the firms' performance in term of ROA and ROE. This result is consistent with prior studies made by Bibi and Amjad (2017) and Janjua, Asghar, Munir, Raza, Akhtar, and Shahzad (2016). This inferred that firms have enough resources to pay off their debts with the available current assets. In other words, firms did not have to sell their profit-generating assets to pay off their obligations. However, in Model 1, there is a negative insignificant relationship between firms' liquidity and MVA. The lower the firm's liquidity, the better the firms' performance in term of MVA. The result is inconsistent with Demirgüneş (2016) where it was claimed that firms with high liquidity could earn more profits because they could make additional profitable investments as they had extra resources in the business.

5. Conclusion and Implication of the Study

The result proved that there is positive significant relationship between CSR and firm performance in terms of ROE and ROA which is in line with the stakeholder theory. Therefore, the hypothesis of this study is supported. These findings suggest that high CSR disclosure can enhance firm's corporate image, maintain good reputation, and attracts investors to increase capacity of company, hence, leads to better firm performance. However, not all the predictions made on CSR and firm performance was significant. The outcome shows that CSR has a positively insignificant relationship with MVA.

Firm size as one of the control variables had a positive significant relationship with firm performance in term of ROA and ROE. Besides, firm age is found to have negative significant relationship with firm performance in term of ROA and ROE. Consistent with the hypothesis made, firm leverage is found to have negative significant relationship with firm performance in term of ROA and ROE and positive significant relationship was found between firm leverage and MVA. Lastly, firm liquidity has a positive significant relationship with ROA and ROE.

This study can serve as a guide for investors when making investment choices. The research findings show that CSR disclosure has a positive and significant relationship with firm performance based on their ROA and ROE. This study contributes to a better understanding for investors as to how CSR disclosure helps to create value and increase firm profitability. Besides that, this research aimed to extend and help academics to have better understanding on the factors that determine firm's performance and provide substantial information on CSR in Malaysia context.

On the other hand, this study could also help managers to gain better perception on how to increase firm performance. Manager together with management team must realize that it is crucial to incorporate CSR activities in their business operations due to its ability to create a positive corporate image and portray themselves as a responsible and caring firm towards the societal wellbeing and environmental concerns rather than a mere profit maximizing entity. By disclosing high CSR practice, firm efforts on image building and reputation maintenance can attract more investors that wish to play parts in the firm and hence improve firms' performance.

This study can also act as a point of reference for regulator such as Bursa Malaysia. Bursa Malaysia has to prescribe the contents of CSR activities or practices that the listed issuers should disclose in the annual reports by providing clear guidelines to the listed issuers. This is because most of Malaysian firms have the tendency to focus on community-based and environment-based CSR activities. Bursa Malaysia also needs to provide educational and engaging courses for the listed issuers to familiarize them with moral practices on reporting CSR activities in the annual reports.

6. Limitation of Study and Recommendation of Future Research

There are several limitations of this research. Firstly, the CSR disclosure in this study only focuses on the 4 themes or areas of CSR that were outlined by Bursa Malaysia. There are various other themes or areas that can be used to reflect CSR such as human right, ethics and governance, environmental impact, customer health and etc. Sample of this study is also limited to non-financial listed firms. The CSR disclosure may have a different effect towards the performance of financial listed firms and non-listed firms. This study also uses only three performance indicators which are Market Value Added (MVA), Return on Assets (ROA) and Return on Equity (ROE). There are other performance indicators that could be used to measure firm's performance such as Return on investments (ROI) and Tobin's Q and also non-financial indicators that may yield different result. For future research, this paper recommends to extend the study by using different CSR disclosure measurement, different firm performance measurement such as return on investments (ROI) and Tobin's Q and different samples.

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References

Babalola, Y. A. (2013). The effect of firm size on firms profitability in Nigeria. *Journal of Economics and Sustainable Development, 4*(5), 90-94.

Berceanu, D., Siminica, M., & Circiumaru, D. (2010). The market value added and the return on invested capital for industrial Romanian firms. *Finante - provocarile viitorului (Finance – Challenges of the Future), 1*(11), 155-161.

Bibi, N., &Amjad, S. (2017). The relationship between liquidity and firms' profitability: A case study of Karachi stock exchange. *Asian Journal of Finance & Accounting, 9*(1), 55-67. https://doi.org/10.5296/ajfa.v9i1.10600

Bowman, E. H. (1978). Strategy, annual reports and alchemy. *California Management Review, 20*(3), 64-71. https://doi.org/10.2307/41165283

Bursa Malaysia Securities Berhad. (2015). Consultation paper no.1/2015: *Proposed amendments to the listing requirements relating to sustainability statement in annual reports and the sustainability reporting guide.* Kuala Lumpur: Bursa Malaysia.

Demirgüneş, K. (2016). The effect of liquidity on financial performance: Evidence from Turkish retail industry. *International Journal of Economics and Finance, 8*(4), 63-79. https://doi.org/10.5539/ijef.v8n4p63

Dewi, D. M., Sudarma, M., Djumahir, & Ganis, E. S. (2014). CSR effect on market and financial performance. *International Journal of Business and Management Invention, 3*(1), 56-66. https://doi.org/10.18860/ed.v1i02.2525

Dkhili, H., & Ansi, H. (2012). The link between corporate social responsibility and financial performance: The case of the Tunisian companies. *Journal of Organizational Knowledge Management, 2*, 1-11.

Fooladi, N., & Kolaie, A. Z. Z. (2015). Examining the relationship between disclosure level of corporate social responsibility and the company's operating performance listed in Tehran Stock Exchange by using the economic approach. *Indian Journal of Fundamental and Applied Life Sciences, 5*(1), 3833-3839.

Hannan, M. T., & Freeman, J. (1989). Organizational Ecology. Cambridge, Massachusetts: Harvard University Press.

Janjua, A. R., Asghar, A., Munir, U., Raza, A., Akhtar, N. & Shahzad, K. (2016). Influence of liquidity on profitability of cement sector: Indication from firms listed in Pakistan stock exchange. *Business Management Dynamics, 6*(5), 1-12.

Jensen, M. C. (1986). The agency cost of free cash flow: corporate finance and takeovers. *American Economic Review, 76*(2), 323-329.

Kabir, R., & Hanh, M. T. (2017). Does corporate governance shape the relationship between corporate social responsibility and financial performance. *Pacific Accounting Review, 29*(2), 227-258. https://doi.org/10.1108/PAR-10-2016-0091

Kamatra, N., & Kartikaningdyah, E. (2015). Effect corporate social responsibility on financial performance. *International Journal of Economics and Financial Issues, 5*, 157-164.

Kanwal, M., Khanam, F., Nasreen, S., & Hameed, S. (2013). Impact of corporate social responsibility on the firm's financial performance. *Journal of Business and Management, 14*(5), 67-74.

Kusumadilaga, R. (2010). Against the influence of corporate social responsibility corporate values with profitability as moderating variable. Semarang: Faculty of Economics, University of Diponegoro.

Lev, B., Petrovits, C., & Radhakrishnan, S. (2010). Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strategic Management Journal, 31*(2), 182-200.

Loderer, C., & Waelchli, U. (2010). Firm age and performance, MPRA Paper, University Library of Munich, Germany.

Mittal, R. K., Sinha, N., & Singh, A. (2008). An analysis of linkage between economic value added and corporate social responsibility. *Management Decision, 46*(9), 1437-1443.

https://doi.org/10.1108/00251740810912037

Modigliani, F., & Miller, M. H., (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review, 53*(3), 433-443.

Mujahid, M., &Abdullah, A. (2014) Impact of corporate social responsibility on firms financial performance and shareholders wealth. *European Journal of Business and Management, 6*(31), 181-187.

Ofuan, J. I., & Izien, F. O. (2016). Firm age, size and profitability dynamics: A test of learning by doing and structural snertia hypotheses. *Business and Management Research, 5*(1), 29-39.

Servaes, H., & Tamayo, A. (2013). The impact of corporate social responsibility on firm value: The role of customer awareness. *Management Science, 59*(5), 1045-1061. https://doi.org/10.1287/mnsc.1120.1630

Uadiale, O. M., & Fagbemi, T. O. (2012). Corporate social responsibility and financial performance in developing economies: The nigerian experience. *Journal of Economics and Sustainable Development, 3*(4), 44-54.

Wahari, H. (2007, November 15). PM: Inisiatif masyarakat penyayang hidup subur. Utusan Online. Retrieved from http://ww1.utusan.com.my/utusan/info.asp?y=2007&dt=1115&pub=Utusan_Malaysia&sec=Muka_Hadapan&pg=mh_05.htm

Yusoff, W. F. W., & Adamu, M. S. (2016). The relationship between corporate social responsibility and financial performance: Evidence from Malaysia. *International Business Management, 10*(4), 345-351.

Zeghal, D., & Ahmed, S. A. (1990). Comparison of social responsibility information disclosure media used by Canadian firms. *Accounting, Auditing & Accountability Journal, 3*(1), 38-53. https://doi.org/10.1108/09513579010136343

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Whether the Innovation Policy Will Really Improve Enterprise's Innovation Performance— Mediating Role of Ambidextrous Learning

Wang Dongling[1], Kelvin C.K. Lam[1]

[1]China-ASEAN International College, Dhurakij Pundit University, Bangkok, Thailand

Correspondence: Wang Dongling, China-ASEAN International College, Dhurakij Pundit University, Bangkok, Thailand.

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Abstract

As the scope embodiment of public policy in specific fields, the government innovation policy is essentially a system arrangement and rule design and it plays an external guidance and incentive effect on the enterprises' innovation activities. Whether the innovation policy will really promote the improvement of enterprises' innovation performance and how it is realized have not reached the conclusion among theorists. As such the aim of this research is to test the relationships between innovation policy and enterprises' innovation performance with the aim of contributing to help the government adjust policies and improve the innovation performance of enterprises. Based on the data of high-tech enterprises in Shandong Province in 2017, this paper studied the impact mechanism of innovation policy on enterprise innovation performance through regression analysis. The paper found that the innovation policy has a significant impact on enterprise innovation performance, and the ambidextrous learning plays a mediating role in this process.

Keywords：Innovation policy, ambidextrous learning, innovation performance

1. Introduction

Appropriate policy support may have an important impact on enterprise innovation. In the newly industrialized and developing countries, the impact of innovation policy on enterprise innovation is much more significant. For this reason, it has become a common concern of theorists and governments for encouraging enterprises to carry out innovative activities through applying the innovation policy. However, whether the innovation policy will really promote the improvement of enterprises' innovation performance and how it is realized have not reached the conclusion among theorists(Fagerberg, 2017). More importantly, most theoretical researches have been concerned about the impact of government innovation policy on enterprise innovation behaviors for a long time and it lacked the consideration on enterprise innovation performance. In recent years, although the impact of innovation policy on enterprise innovation performance has gradually become the focus of researches, the related researches ignored the transmission mechanism between innovation policy and enterprise innovation performance, and it cannot explain the micro mechanism of the innovation policy working.

Fu and Mu (2014)demonstrated the mechanism process where the technology innovation policy acts on the innovation behavior of enterprises and further improves the mechanism of innovation performance through the sampling survey of the samples of small and medium enterprises in Guangdong. Eickelpasch and Fritsch (2005) studied German innovation policy and showed that German innovation policy system put more emphasis on the construction of competition mechanism among enterprises compared with the traditional innovation policy system, and the "Picking the winner" policy orientation also stresses the flexibility and effectiveness of management. Ketels (2016)conducted a research based on the sample of Spanish enterprises and it showed that although the R&D subsidy policy would encourage private enterprises to invest in innovative resources as a whole, there might also be the Crowding Out Effect for a small number of enterprises samples (30% test samples). Mazzucato (2016)verified the relationship between innovation policy synergy and economic performance by the method of policy measurement and empirical study and the results showed that there was a significant directional difference in the impact of innovation policy synergy on economic performance, which is not the stronger, the better. Chen and Ping (2004)took the medium and small enterprises board of Shenzhen stock exchange in China as a sample to evaluate the performance of China's innovation policy, and the results showed that innovation policy had a positive impact on enterprise innovation performance, but its influence is

not homogeneous.

To sum up, the research conclusions on the mechanism of the role of innovation policy still have the inadequacy of explanatory power and consistency, which is reflected in the relationship between innovation policy and enterprise innovation performance. On the one hand, the innovation performance of different enterprises may have great differences in the context of similar innovation policy (Laranja, Uyarra, & Flanagan, 2008); on the other hand, different innovation policy situations may lead to similar enterprise innovation performance. In addition, most studies regard the intermediate process from "government innovation policy" to "enterprise innovation performance" as black box, and ignore the influence of innovation policy on the process of enterprise innovation, which is not conducive to understanding the working mechanism of innovation policy in depth.

According to the study of March (1991), ambidextrous learning refers to the explorative and exploitative learning. The explorative learning emphasizes the ability of new knowledge that is different from the accumulated existing knowledge accumulation, while the exploitative learning emphasizes the gradual change and reform in the field of the existing products or knowledge. Different type of learning methods will lead to different performance results. Innovation policy is an important factor of the external environment affecting the ambidextrous learning, such as policy put forward by Lavie (2006) and so on which can have an influence on the ambidextrous learning. Innovation policy will directly affect the ability of enterprises to explore and exploit knowledge. When enterprises are supported by government policies or funded, enterprises will show more capable of exploring knowledge and be willing and dare to take risks to innovate. If enterprises can't get policy support, they may prefer to adopt a conservative attitude rather than explore new knowledge. Therefore, it can be started from ambidextrous learning to study the generative mechanism of the impact of innovation policy on innovation performance, and discuss the influence of different type of learning methods on innovation performance under the innovation policy.

Based on the above logic framework, this paper tries to conduct the analysis from the perspective of ambidextrous learning, and considers the organization of ambidextrous learning as the intermediary mechanism of innovation policy affecting innovation performance, and discusses the transmission mechanism between the innovation policy and the innovation performance. The integrated framework of innovation policy, ambidextrous learning and innovation performance is constructed to reveal the important role of innovation policy for the development of enterprises, and provide the basis for enterprises to improve their organizational learning ability and then improve the innovation performance through the innovation policy.

2. Hypothesis

As the external guidance and incentive approach of enterprise innovation activities, innovation policy can guide organizational learning through influencing resource integration, utilization and reconstruction(Naqshbandi & Tabche, 2018), and thereby affect the innovation performance. Enterprises supported by the innovation policy can often improve their innovation performance by changing learning behaviors (more exploration and stronger mining and utilization of existing knowledge)(Mohnen & Röller, 2005).

2.1 Impaction of Innovation Policy on Innovation Performance

Tax policy and direct subsidy policy have always been the two most common and most significant innovative policies applied by governments (Eisner, 1969), policy cultural issues can make or mar the open innovation process(Naqshbandi, Kaur, & Ma, 2014). Financial subsidy refers to a certain amount of financial support and allowances granted to specific enterprises in a given period according to the political and economic situation. Financial subsidy can provide additional resources for the enterprises to deal with the uncertainty during the innovation, which reduces the risk of innovation So it will encourage enterprises to increase innovation investment, and thus achieve better innovation performance(Toivanen, 2012). Due to lack of funds and resources for enterprises, their innovation results may have strong uncertainty and the technological values are faced with the risk of invisible loss. These are the main reasons for restraining the innovation of enterprises. If the government can provide certain financial support for the enterprises, and help them out of the "valley of death" at the beginning of the innovation, it will promote the enterprises to increase innovation and achieve better innovation performance. Based on the above analysis, this paper holds that the financial subsidy policy of government has positive impact on innovation activities of enterprises. In terms of tax policy, it is the universal innovation policy tool to guide and encourage enterprises to increase investment in science and technology through preferential tax policies(Gale & Brown, 2013). By providing tax preferences for enterprises, the government reduces the tax cost undertaken by enterprises to alleviate the shortage of R & D funds in enterprises, which thereby indirectly reduces the R & D risk of enterprises, encourages enterprises to increase effort on the R & D of innovation and achieves better innovation performance(Mansfield, 1982). For those projects with high

risk, long R & D cycle, and large social income and small private income, enterprises are often reluctant to invest too much, but a certain degree of tax preferences will reduce the burden of enterprises, stimulate their enthusiasm for innovation and encourage them to increase R & D investment so as to achieve the improvement of innovation performance.

H1：Innovation policy positively impact on innovation performance.

2.2 Impact of Innovation Policy on Ambidextrous Learning

There is little research on the impact of policy climate on the organizational learning of enterprises. In particular, empirical research on the impact of policy climate on the organizational learning of enterprises on specific industries in China is lacking. Most scholars believe that the government plays an important role in encouraging and nurturing innovation, which will make the activities of enterprises more innovative (Yang, Zhou, & Zhang, 2015). Zhang and Chen (2014) finds that cooperation with government agencies has a direct impact on the promotion of cooperative learning in small and medium-sized enterprises (SMEs). Wang, Chen, and Hu (2011) point out that the government support is the most external influence of organizational learning, government funding, tax incentives and purchase behavior of enterprises to promote independent organizational learning have a positive effect. Khan, Yong, and Akhtar (2016)found that there is a significant correlation between the government policy and the performance of cooperative innovation through the investigation and research on the cooperative innovation of Chongqing Municipality. The government formulates the relevant supporting policies, strengthens the guidance of scientific and technological achievements transformation work and strengthens the macro-Guidance can effectively promote the performance of cooperative innovation. Therefore, this paper proposes the following assumptions:

H2: Innovation policy positively impact on ambidextrous learning

H2a: Innovation policy positively impact on explorative learning.

H2b: Innovation policy positively impact on exploitative learning.

2.3 Impact of Ambidextrous Learning on Innovation Performance

Naqshbandi and Kaur (2014) develop a model to explain how leadership interacts with absorptive capacity and organizational learning culture to influence open innovation outcomes. Explorative learning is related to new and differentiated new product ideas and product concepts. Explorative learning can lead to breakthrough product changes and develop new products that lead the market. Customer demand diversification and differentiation are becoming higher and higher. In this case, leading products with differentiated performance are more likely to create user requirements and be accepted by customers. Explorative learning can integrate new ideas and new knowledge into product design, and therefore design new products with new characteristics and utility(Westerlund, Peters, & Rajala, 2010).Explorative learning in addition to be able to promote breakthrough new product development, more importantly, explorative learning with self-enhancing effect. The self-reinforcing effect of exploratory learning can bring the new product development into the track of the virtuous circle. Explorative learning can also encourage team members to incorporate new knowledge and experience into their knowledge reserves, thereby increasing team members' knowledge accumulation and learning ability.

According to the resource-based theory, internal knowledge is more likely to be a sustainable competitive advantage, and internal knowledge is path dependent. In the process of exploitative learning, the use of new knowledge will face smaller conflicts and resistance than the use of new external knowledge（March，1991），The knowledge produced by the exploitative learning can create higher value for the enterprise and is difficult to learn and imitate by competitors. In view of this, the following hypothesizes are proposed

H3：Ambidextrous learning positively impact on innovation performance.

H3a：Explorative learning positively impact on innovation performance.

H3b：Exploitative learning positively impact on innovation performance.

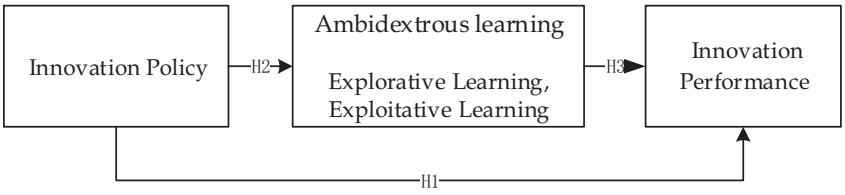

Figure 1. Theoretical Model

3. Method

This study collects data in the form of questionnaire survey, and carries out statistical analysis for the collected questionnaires, like reliability and validity validation, multiple regression analysis, etc. This research uses statistical analysis software - SPSS and AMOS, where SPSS software is used for the measurement of variable reliability and verification of proposed assumption, AMOS software is used for confirmatory factor analysis and model fitting degree analysis.

3.1 Data Collection

The core topic of this paper is to explore the relationship between innovation climate and performance, so the research object must have high intensity of R & D activities and innovative practice. The innovative team in high-tech enterprises, as high-intensive economic entity of knowledge, technology and investment, is capable of continuing the new technology and product development, with product high-tech, and on behalf of the most advanced and cutting-edge development direction in the technological field of enterprise. Compared with other general organizations, high-tech enterprises need to carry out innovative activities to construct core innovation ability (Schilling, Jones, Gareth, Hill, & Charles, 2001)in order to handle internal and external environment change. Therefore, high-tech enterprises match with this research issues. At the same time, the technological innovative activities of high-tech enterprises are of great strategic significance to the construction of an innovative country, promote the industrial transformation and upgrading whose results can also bring beneficial practical enlightenment to the enterprises and regional development.

Benefit from the development of high-tech enterprises, Shandong Province ranks the third in GDP in 2015. Taking the convenience of information collection, research costs and data aggregation problems into account, this study choose high-tech manufacturing enterprises in Shandong Province as a research object. There are a total of 1516 high-tech enterprises in Shandong Province (Source: Science and Technology Department of Shandong Province) with 1374 manufacturing among them. In this study, stratified random sampling was used to sample 1374 high-tech manufacturing industries. One of the main problems of this study focuses on the impact of the external innovation climate on the innovation performance of enterprises. In order to ensure that the research results can fully reflect the influence of different external environment, this study proceed sampling according to the administrative region division of Shandong Province, which divided into 17 layers and sampled in accordance with 20% proportion in each layer to reduce the influence of data variability in every sampling layer, so as to make sure the extracted samples with sufficient representation.

In this study, 275 questionnaires are distributed in total, and 215 questionnaires are returned in fact, with the return rate of 78%. Besides, 45 invalid or poor-quality questionnaires are removed in accordance with the questionnaire screening standard in Chapter IV. The final number of valid questionnaires is 170, with the valid questionnaire return rate of 61.8%. The results of sample descriptive statistics in this study are shown as follows.

Table 1. Sample Descriptive Statistics

Variable	Categories	Frequency	Percentage
Number Of Employees	Below 5 0	58	34.2
	50-150	9	5.3
	150-300	18	10.5
	More Than	85	50
	Sum	170	100
Enterprise Type	State-Owned Enterprise	45	26.3
	Private Enterprise	4	2.6
	International Joint Ventures	89	52.6
	Foreign Enterprise	13	7.9
	Others	18	10.5
	Sum	170	100
Enterprise Development Stage	Establishment Stage	27	15.8
	Growth Stage	49	28.9
	Mature Stage	72	42.1
	Decline Stage	13	7.9
	Second Undertaking Stage	9	5.3
	Sum	170	100
Time	1-5 Years	27	15.8
	5-10 Years	22	13.2
	10-15 Years	13	7.9
	More Than 15 Years	58	63.2
	Sum	170	100
Post	Grass-Roots Managers	40	23.68
	Middle Manager	128	75
	Top Management	2	1.32
	Sum	170	100
Respondent's length of service	1-2 Years	27	15.8
	3-5 Years	22	13.2
	5-8 Years	13	7.9
	8-10 Years	72	42.1
	More Than 10 Years	36	21
	Sum	170	100

Seen from the data in Table 1, state-owned and joint venture enterprises account for about 89%; the enterprises with more than 300 employees approximately account for 50% of the total number of enterprises;63.2% of enterprises have a development period of over 15 years, and the large-scale enterprises with high resource accumulation account for above 50% of the samples. 77% of respondents hold medium/senior management posts, and 56% of respondents have more than 5 years of work experience in respective enterprises. Thus, they have a better understanding of their enterprise status, and can provide better help for this study to obtain valid data. To sum up, the data in the table can meet the data requirements for the research issue, and can be analyzed.

3.2 Measurement of Variables

In order to ensure the reliability and validity of the variables of this study, the scale used in this study is derived from the mature scale developed by the previous scholars. This study used the Likert 5 point scale to measure these items.

Independent Variable：Innovation policy is the behavior of the government to encourage enterprises to participate in innovative activities, including relevant laws, regulations and administrative rules and regulations(Vermeulen, 2005). The innovation policy measurement mainly draws lessons from the research results of Mohnen and Röller (2000). The innovation policy is measured by the following four items：Enterprises get local government financial support; the enterprise get the local government tax policy support; Implementation procedures of innovation policy; Efficiency of government in implementing innovation policy;

Mediation Variables：Based on the research of March（1996）, this paper divides ambidextrous learning into exploitative learning and explorative learning exploitative learning and explorative learning were measured using the scale of Chung, Yang, and Huang (2015). Explorative learning were measured by five items: The company obtains new technologies and skills for itself within three years; The company learn the new product development technology and development process for industry; The company get new management and organizational skills that are important to innovation; The company have access to new technologies in investing, R & D deployment, R & D, training and development of engineer and so on; The company strengthens innovative skills in previously inexperienced areas. Exploitative learning were measured by five items: Upgrade the existing knowledge and skills in familiar products and technology field; Enhance skill investment to improve

productivity when using mature technology; Enhanced the ability to find solutions to customer problems that are not new but resemble existing methods; Enhance your skills further in new product development processes that already have some experience; Strengthen project knowledge and experience to improve the efficiency of existing innovative activities.

Dependent Variable：Based on Gemunden (1996) innovation performance scale, Ritter (1999)measured innovation performance from product innovation and technological innovation. This scale is convenient and concise in the process of use, and has more outstanding characteristics of subjective evaluation of respondents. Therefore, this study uses this scale to measure innovation performance. The measure item of process innovation includes: we have very advanced production equipment; compared with our competitors, our production equipment is more advanced; our production equipment embodies the first class technology. Product innovation items include: Compared to our competitors, the improvement and innovation of our products have a better market reaction; compared with our competitors, we have a higher rate of success in product innovation; Our products are first class in technical content.

Control Variable：The economic nature of firms has an impact on innovation performance. Compared with state-owned enterprises and foreign-funded enterprises, private enterprises are more likely to develop high innovation performance because their small-scale organization has flexibility in responding to the changing competitive environment. Longer-established enterprises can accumulate the necessary innovation experience, which has a positive impact on innovation activities, but such enterprises do not focus too much on situation outside enterprise or even ignore information from customers (Sorensen & Stuart, 2000). Scale is closely related to innovation activities of enterprise. Scale has influence on the adoption of managerial innovation and a strong relationship with explorative learning (Dewar & Dutton, 1986). Therefore, this paper places the industry attributes, economic nature, the year of establishment, team scale into the control variable category. This paper carries out the dummy variable treatment to the control variable in order to make a more rigorous study. During dummy variable treatment, first, segment study variables, take K-1 dummy variable if divided into K section, omit variables such as (0, 0), which can largely simplify the analysis process. Show as below.

Table 2. Control Variable Setting and Measurement

Control variable	Variable segment	D1	D2	D3	D4
Economic nature	State-owned enterprise	0	0	0	0
	Private enterprise	0	1	0	0
	Sino-foreign joint venture	0	0	1	0
	Foreign-funded enterprise	0	0	0	1
Years	between 1 and 3 years	0	0	0	0
	Between 3 and 5 years	0	1	0	0
	Between 6 and 10 years	0	0	1	0
	Over 10 years	0	0	0	1
Scale	Over 300 people	0	0	0	0
	Between 150 and 300 people	0	1	0	0
	Between 50 and 150 people	0	0	1	0
	Under 50 people	0	0	0	1

3.3 Common Method Bias Test

In this study, Harman single factor test was used to test the common method bias. By the Harman single factor test, 4 factors were analyzed（characteristic root>1）. The rate of variance of the greatest common factor before rotation was 39.265% (< 40%). As shown in table 3,so there is no common method bias problem in this study data.

Table 3. Result of Harman Single Factor Test

Factor	Characteristic Root	Variance Interpretation Rate Before Rotation
1	9.031	39.265
2	3.848	16.731
3	1.205	5.237
4	1.021	4.439

4. Result Analysis

4.1 Reliability Analysis

In this study, Cronbach's α is used to test the internal consistency of scales. Nunnally (1978)indicated that the estimated Cronbach's α should be above 0.7 as a high reliability value of a construct. Melchers (1987) indicated that the coefficient of internal consistency at the lowest level should be above 0.5, preferably above 0.6, and the lowest coefficient of internal consistency of the entire scale should be above 0.7, preferably above 0.8.

As shown in table 4, the Cronbach's α values of innovation policy is respectively 0.865 The Cronbach's α values of explorative learning and exploitative learning are respectively 0.876 and 0.795. The Cronbach's α values of innovation performance are respectively 0.813. It shows that the reliability of each scale is within an acceptable range, with good internal consistency.

Table 4. Questionnaire Reliability Analysis Results

Variable	No.	Cronbach's α
Innovation Policy	4	.865
Explorative Learning.	5	.876
Exploitative Learning.	5	.795
Innovation Performance	6	.813

4.2 Confirmatory Factor Analysis

To test the discriminant validity among key variables and the corresponding measurement parameters of each measurement scale, AMOS17.0 is adopted in this study to carry out confirmatory factor analyses (CFA) on key variables, and the model comparison method is used to investigate the discriminant validity and convergent validity of each scale (Gatignon, 2010).

AMOS is tested on the basis of chi-square statistic value (X2). In general, the chi-square value P>0.05 is deemed as a criterion to judge that a model has a good fit effect(Rong, Scholz, & Martin, 2009). However, the chi-square statistic is susceptible to the sample size. Thus, in addition to chi-square statistic, other fit indexes need to be considered as well (Fox, 1983). The judgment criteria for fit indexes are listed in tables 5 (Gatignon, 2010).

Table 5. Goodness of Fit Analysis of Model

Index	x^2	x^2/df	GFI	AGFI	RMSEA	NFI	CFI
Standard Value	>0.5	<5	>0.9	>0.9	<0.1	>0.9	>0.9
Model	264.972	2.038	0.867	0.963	0.095	0.980	0.987

According to the judgment criteria for fit indexes (Gatignon, 2010) listed in tables 5 a confirmatory factory analysis on model is carried out. The results show that the verification indexes such as X2/df, RMSEA, NFI and CFI in the model basically reach the acceptable level, indicating that model has good fit.

Table 6. CFA of Model

Route			λ	C.R.	AVE
Z1	<---	Z	0.682	0.761	0.772
Z2	<---	Z	0.806		
Z3	<---	Z	0.946		
Z4	<---	Z	0.763		
S11	<---	S1	0.801	0.918	0.799
S12	<---	S1	0.841		
S13	<---	S1	0.835		
S14	<---	S1	0.894		
S15	<---	S1	0.893		
S21	<---	S2	0.868	0.927	0.802
S22	<---	S2	0.899		
S23	<---	S2	0.755		
S24	<---	S2	0.917		
S25	<---	S2	0.883		
C1	<---	C	0.987	0.906	0.766
C2	<---	C	0.94		
C3	<---	C	0.776		
C4	<---	C	0.833		
C5	<---	C	0.717		
C6	<---	C	0.871		

Note. Z, S1, S2 and C stand for innovation policy, explorative learning, exploitative learning and innovation performance.

For the convergent validity of each dimension, the average variance extraction (AVE value) is adopted to reflect the value, and generally used to reflect the convergent validity of scales, which can directly display how much variance explained by latent variables comes from measurement errors. The bigger the AVE value is, the larger the variation percentage of the measured variable explained by latent variables will be. Accordingly, the measurement error will be smaller. The average variance extraction values all conform to the criterion of 0.50+ suggested by Fornell and Larcker (1981). The above data show that the model is within an acceptable range.

Composite reliability (CR) as one of the judgment criteria for intrinsic quality of the model reflects whether the observation item in each latent variable consistently explains the latent variable. Seen from Table 6, CR is above 0.7, which is above the criterion of more than 0.60 suggested by Fornell and Larcker (1981), with good internal consistency.

4.3 Regression Analysis Results and Discussion

Main effect test: The regression analysis in this study is based on 170 samples, and the multiple regression method is adopted to analyze the causal relationship between factors. For the regression, stepwise regression is adopted. As independent variables enter the regression equation, the statistical probability of the default variable coefficient F entering the regression equation according to SPSS is 0.05. In the analysis, such values as R^2, F and Sig.(p) are mainly used to analyze the regression effect (Draper & Smith, 2014). R^2 refers to the coefficient of determination, which reflects a good or bad regression effect, the closer to 1, the better. The F-test of regression effect has to undergo the T-test, the bigger the T value, the better. The Sig.(p) value reflects the significance between independent and dependent variables. Bounded by 0.05, the smaller the value is, the higher the significance level will be.

Model 1 and Model 2 mainly verify the effect of innovation policy on innovation performance. In model 1, only control variables are added, including the founding time, scale, number of employees and development stage of an enterprise; Based on model 1, model 2 is added with innovation policy to verify the affection of innovation policy on innovation performance, and the affection of innovation policy on innovation performance. The regression results (Table 7) show that in the regression of innovation policy on innovation performance, R^2 values are significantly increased to 0.668 respectively; the F-test values are respectively 20.883, passing the F-test ($p=0.000<0.001$); The regression coefficients are respectively 0.822 ($p=0.000<0.001$) , which show a positive effect and zero significant difference, thereby, passing the T-test ($p=0.000<0.001$). Innovation policy has a significantly positive effect on innovation performance.

Table 7. The Effect of Innovation Policy on Innovation Performance

Independent Variable	Dependent Variable	
	Innovation Performance	
Control Variable	Model1	Model 2
Nature	-.110	-.200
Number Of Employees	-.264	-.017
Stage Of Development	.133	-.060
Founding Time	-.013	.033
Independent Variable		
Innovation Policy		.822***
F	1.016	20.883***
R^2	.071	.668
ΔR^2	.071	.597
AdjR^2	.001	.636

Note. * p<0.05; ** p<0.01; *** p<0.001

Mediating Effect Test: This paper uses the bootstrap method(Hayes, 2013) to examine the mediating effect. The sample size was 5000 and the confidence interval was 95%.

It can be seen from the test results of intermediary effect of explorative learning. Without considering the mediating role of explorative learning，the independent variable has a significant positive effect on the mediator variable. The result is contrary to the previous conclusion. The reason is that this result is obtained by a simple linear regression on the data of 5,000 samples randomly retrieved from the original sample without considering the panel data. Seen from regression results from dependent variables and mediator variables, government innovation policy has a significant positive impact on enterprise innovation performance. This result is consistent with the previous research findings, H1 is verified too, and meanwhile explorative learning has a significant positive impact on enterprise innovation performance. It can be seen from the results of direct and indirect effects. The results of explorative learning intermediary test did not contain 0(LLCI=-0.0192,ULCI=-0.0041), It indicates that the mediating effect of explorative learning is significant, and the coefficient of mediating effect is -0.0103. When controlling the variable of explorative learning，The interval of direct effect does not contain 0 (LLCI=0.0405,ULCI=0.1658), The direct impact is still significant when government innovation policies affect innovation performance. It shows that explorative learning plays a mediating role in the impact of government innovation policy on firm performance, but it is not the only mediating variable.

Table 8. the Results of Mediating Effect Test

Control Intermediary(Yes/No)	Path	coeff	effect	se	95% confidence interval LLCI	95% confidence interval ULCI	P
	$Z-S_1$	.0966	-	.0292	.0393	.0154	.0001
	S_1-C	.1065	-	.0301	-.1657	-.0474	.0004
No	Z-C	.1032	-	.0319	.0405	.1658	.1658
	Direct Effect	-	.1032	.0319	.0405	.1658	.0013
Yes	Mediation Effect	-	.0103	.0038	.0192	.0041	-

It can be seen from the test results of intermediary effect of exploitative learning. Without considering the mediating role of exploitative learning，the independent variable has a significant positive effect on the mediator variable. The result is contrary to the previous conclusion. The reason is that this result is obtained by a simple linear regression on the data of 5,000 samples randomly retrieved from the original sample without considering the panel data. Seen from regression results from dependent variables and mediator variables, government innovation policy has a significant positive impact on enterprise innovation performance. This result is consistent with the previous research findings, H1 is verified too, and meanwhile exploitative learning has a significant positive impact on enterprise innovation performance. It can be seen from the results of direct and indirect effects. The results of exploitative learning intermediary test did not contain 0(LLCI=-0.0029,ULCI=0.0187), It indicates that the mediating effect of exploitative learning is significant, and the coefficient of mediating effect is 0.0029. When controlling the variable of exploitative learning，The interval of direct effect does not contain 0 (LLCI=0.0212,ULCI=0.1462), The direct impact is still significant when government innovation policies affect innovation performance. It shows that exploitative learning plays a mediating role in the impact of government innovation policy on firm performance, but it is not the only mediating variable.

Table 9. the Results of Mediating Effect Test

Control Intermediary(Yes/No)	Path	coeff	effect	se	95% confidence interval LLCI	95% confidence interval ULCI	P
	$Z-S_2$	.0236	-	.0084	-.0400	-.0400	-.0072
No	S_2-C	.3890	-	.1052	-.5953	-.1826	.0002
	Z-C	.0837	-	.0319	.0212	.1462	.0087
Yes	Direct Effect	-	.0837	.0319	.0212	.1462	.0087
	Mediation Effect	-	.0092	.0040	.0029	.0187	-

5. Conclusions

Based on the empirical study, this paper analyzes the mechanism of the impact of government innovation policy on enterprise innovation performance. The conclusions are as follows:

5.1 Conclusions

First, this paper provides empirical evidence for the debate on “whether the innovation policy is really effective”. The empirical study results show that the impact of innovation policy on enterprise innovation performance is significantly positive. This shows that the government innovation policy has a significant support for the independent innovation of the enterprise. The policy preferences given by the government can help enterprises get rid of certain resource constraints, effectively reduce the financial risks of enterprises’ independent innovation, and make them get more recognizable innovation opportunities and allocate their own limited resources better to improve the innovation performance. This is consistent with the study of Nceie et al. (2005).Jaffe and Palmer (1997) present that flexible policy regimes give firms greater incentive to innovate than prescriptive regulations, such as technology-based standards. The results are inconsistent with this paper , the reason is that the division of innovation policy is different. In subsequent studies, we further discussed the impact of different types of innovation policies on innovation performance.

Second, the theorists pay more attention to the direct impact of government innovation policy on enterprise innovation performance, but regard the impact process as black box. In fact, when enterprises accept different innovation policies, their organizational learning behavior will be changed, and it is the change of these behaviors that leads to the change of final innovation performance. This paper deeply explores the impact mechanism of innovation policy on innovation performance, and finds that the organizational ambidextrous learning plays a significant mediating role in the whole process. This is consistent with the study of Alzuod, Isa, and Othman (2017).The innovation policy encourages enterprises to choose organizational learning way which is more suitable for enterprise innovation, and the more deeply and extensive organizational learning can promote the improvement of innovation performance in turn(Radzi, 2014). This finding makes up for the deficiency that the explanatory power of the existing model is inadequate caused by the lack of intermediate variable, deepens

the understanding of the innovation policy, and lays a preliminary theoretical foundation for further exploring the mechanism of the action of the innovation policy from the micro level.

Third, under the rapid development of technology environment, enterprises should lay emphasis on the importance of organizational learning. Enterprises can solve problems of enterprise vitality through explorative learning and exploitative learning, and expand the depth and breadth of information exchange with the outside world so as to promote the innovation performance of enterprises.

5.2 Policy Suggestions

The study in this paper put forward the following policy suggestions for the government: Firstly, continue to increase investment in innovation policies. Considering the significant promotion impact of the government's innovation policy on enterprise innovation performance, it's reasonable to support the government to continue to increase the investment in innovation policy, especially for the enterprises in the early stage of development which should be given stronger policy support to reduce the cost and risk pressure encourage their independent innovation, and achieve better innovation performance.

Secondly, promote enterprises to carry out cooperative innovation better through innovation policy. By means of the guidance of the innovation policy, the government should encourage the establishment of cooperative innovation organizations between enterprises and enterprises, enterprises and institutions of higher learning and scientific research institutes such as the national engineering laboratory or industry R & D center to carry out more deeply innovation and cooperation. This will enable enterprises to actively share information with partners, and help enterprises to further conduct the organizational learning and achieve better innovation performance.

Finally, enhance the pertinence of policy implementation and improve the review and supervision mechanism before the implementation of policy. Considering the impact of enterprise heterogeneity on the implementation effect of innovation policy, it is particularly important to appropriately implement different innovation policies supports for different types of enterprises.

5.3 Limitations

The limitations of this study are as follow: first, this paper conducts the study only based on the data of Shandong Province in 2017, so the research results may have some limitations. For future researches, it's necessary to adopt data with longer time span and wider geographical scope to supplement and develop the results of this study. Second, this study uses the cross sectional data, which can't reflect the dynamic impact of innovation policy on ambidextrous learning and innovation performance. Therefore, dynamic analysis can be tried in the future. Third, this paper analyzes the intermediary role of innovation policy on ambidextrous learning and innovation performance, but it may also be regulated by other factors during the process, such as environmental dynamics and redundant resources etc. Further studies on these aspects can be conducted in the future.

References

Alzuod, M., Isa, M., & Othman, S. (2017). Organizational Learning, Innovative Performance and the Moderating Effect of Entrepreneurial Orientation Among Jordanian SMEs. *Social Science Electronic Publishing, 11*(111), 16-26.

Chen, X. D., & Ping, H. U. (2004). Empirical study on innovation policy performance in China. *Studies in Science of Science, 22*(1), 108-112.

Chung, H. F. L., Yang, Z., & Huang, P. H. (2015). How does organizational learning matter in strategic business performance? The contingency role of guanxi networking. *Journal of Business Research, 68*(6), 1216-1224. https://doi.org/10.1016/j.jbusres.2014.11.016

Dewar, R. D., & Dutton, J. E. (1986). The Adoption of Radical and Incremental Innovations: An Empirical Analysis. *Management Science, 32*(11), 1422-1433. https://doi.org/10.1287/mnsc.32.11.1422

Draper, N. R., & Smith, H. (2014). *Applied Regression Analysis, Third Edition*.

Eickelpasch, A., & Fritsch, M. (2005). Contests for cooperation—A new approach in German innovation policy. *Research Policy, 34*(8), 1269-1282. https://doi.org/10.1016/j.respol.2005.02.009

Eisner, R. (1969). Tax Policy and Investment Behavior: Comment. *American Economic Review, 59*(3), 379-388.

Fagerberg, J. (2017). INNOVATION POLICY: RATIONALES, LESSONS AND CHALLENGES. *Journal of Economic Surveys, 31*(2). https://doi.org/10.1111/joes.12164

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement

error: Algebra and statistics. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312

Fu, X., & Mu, R. (2014). Enhancing China's Innovation Performance: The Policy Choices. *China & World Economy, 22*(2), 42-60. https://doi.org/10.1111/j.1749-124X.2014.12061.x

Gale, W. G., & Brown, S. (2013). Small Business, Innovation, and Tax Policy: A Review. *Mpra Paper*.

Gatignon, H. (2010). *Statistical Analysis of Management Data*: Springer New York.

Gemunden, G. (1996). Book reviews. *Comparative Literature*.

Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. *Journal of Educational Measurement, 51*(3), 335-337.

Ketels, C. (2016). Smart specialisation: opportunities and challenges for regional innovation policy. *Competitiveness Review, 49*(3), 480-482.

Khan, Z., Yong, K. L., & Akhtar. (2016). The Influence of Host Country Industrial Policy and MNEs on Local Suppliers' Learning Capability Development in an Emerging Economy. *Industry & Innovation*. https://doi.org/10.1080/13662716.2016.1189811

Laranja, M., Uyarra, E., & Flanagan, K. (2008). Policies for science, technology and innovation: Translating rationales into regional policies in a multi-level setting. *Research Policy, 37*(5), 823-835. https://doi.org/10.1016/j.respol.2008.03.006

Lavie, D. (2006). The Competitive Advantage of Interconnected Firms: An Extension of the Resource-Based View. *Academy of Management Review, 31*(3), 638-658. https://doi.org/10.5465/amr.2006.21318922

Mansfield, E. (1982). Tax policy and innovation. *Science, 215*(4538), 1365-1371. https://doi.org/10.1126/science.215.4538.1365

March, J. G. (1991). Exploration and Exploitation in Organizational Learning. *Organization Science, 2*(1), 71-87. https://doi.org/10.1287/orsc.2.1.71

Mazzucato, M. (2016). From market fixing to market-creating: a new framework for innovation policy. *Industry & Innovation, 23*(2), 140-156. https://doi.org/10.1080/13662716.2016.1146124

Melchers, R. E. (1987). *Structural reliability analysis and prediction*: Wiley.

Mohnen, P., & Röller, L. H. (2000). *Complementarities in Innovation Policy*.

Mohnen, P., & Röller, L. H. (2005). Complementarities in innovation policy. *European Economic Review, 49*(6), 1431-1450. https://doi.org/10.1016/j.euroecorev.2003.12.003

Naqshbandi, M. M., & Kaur, S. (2014). Do managerial ties support or stifle open innovation? *Social Science Electronic Publishing, 114*(4), 425-434.

Naqshbandi, M. M., Kaur, S., & Ma, P. (2014). What organizational culture types enable and retard open innovation? *Quality & Quantity, 49*(5), 1-22.

Naqshbandi, M. M., & Tabche, I. (2018). The interplay of leadership, absorptive capacity, and organizational learning culture in open innovation: Testing a moderated mediation model. *Technological Forecasting & Social Change*. https://doi.org/10.1016/j.techfore.2018.03.017

Nceie, I. O. N. N., Inn, C. E., Ie, C., Inn, C. E., Nce, I., & Sc, S. I. O. N. (2005). Innovation Policy and Performance: A Cross-Country Comparison Complete Edition - ISBN 9264006729. *Sourceoecd Science & Information Technology, volume 2005*(6), i-241(241).

Nunnally, J. C. (1978). *An Overview of Psychological Measurement*: Springer US. https://doi.org/10.1007/978-1-4684-2490-4_4

Radzi, C. W. J. W. M. (2014). Influence Of Organizational Learning And Innovation On Oganizational Performance In Asian Manufacturing Food Industry. *British Journal of Ophthalmology, 19*(6), 351.

Ritter, T. (1999). The Networking Company : Antecedents for Coping with Relationships and Networks Effectively. *Industrial Marketing Management, 28*(5), 467-479. https://doi.org/10.1016/S0019-8501(99)00075-9

Rong, Scholz, & Martin. (2009). Mind the gaps: weighting the unknown in large-scale one-class collaborative filtering. 667-676.

Schilling, Jones, Gareth, Hill, & Charles. (2001). Strategic Management: Theory. *171*(2), 3-14.

Sorensen, J. B., & Stuart, T. E. (2000). Aging, obsolescence, and innovation (vol 45, pg 99, 2000). *Administrative Science Quarterly, 45*(2), 418-418. https://doi.org/10.2307/2667081

Toivanen, O. (2012). Innovation policy analysis: Direct subsidies vs. tax incentives. *Sep-2012*.

Vermeulen, P. A. M. (2005). Uncovering Barriers to Complex Incremental Product Innovation in Small and Medium‐Sized Financial Services Firms. *Journal of Small Business Management, 43*(4), 432-452. https://doi.org/10.1111/j.1540-627X.2005.00146.x

Wang, W., Chen, L., & Hu, X. (2011). *Ties portfolios, ambidextrous learning and competitive capabilities: An empirical study of cluster SME innovation mechanism.* Paper presented at the International Conference on Artificial Intelligence, Management Science and Electronic Commerce.

Westerlund, M., Peters, L. D., & Rajala, R. (2010). Learning and innovation in inter‐organizational network collaboration. *Journal of Business & Industrial Marketing, 25*(6), 435-442. https://doi.org/10.1108/08858621011066026

Yang, Z., Zhou, X., & Zhang, P. (2015). Discipline versus passion: Collectivism, centralization, and ambidextrous innovation. *Asia Pacific Journal of Management, 32*(3), 745-769. https://doi.org/10.1007/s10490-014-9396-6

Zhang, S., & Chen, J. (2014). The Research on the Organizational Learning and Technology Innovation of China Returnee Enterprise Based on Ambidextrous Network: A Multiple Cases Research. *Science of Science & Management of S & T*.

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The Impact of Applying the Blue Ocean Strategy on the Achievement of a Competitive Advantage: A Field Study Conducted in the Jordanian Telecommunication Companies

Mohammad Ali Al Qudah[1], Tareq N. Hashem[2]

[1]Police Science Academy in Sharjah, United Arab Emirates

[2]Associate Professor, Marketing Department, Isra University, Amman. Jordan

Correspondence: Tareq N. Hashem, Associate Professor, Marketing Department, Isra University, Amman – Jordan.

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Abstract

The present study aimed to identify the impact of applying the blue ocean strategy on the achievement of a competitive advantage in the Jordanian telecommunication companies. In order to achieve the study's objectives, the descriptive analytical approach was adopted and a questionnaire was developed. After that, the questionnaire forms were distributed to the selected sample. The sample consists of one hundred (100) administrators working in Jordanian telecommunication companies. The researchers used descriptive statistical methods, as well as, linear regression analysis, that were done to test the study's hypotheses and analyze the collected data. Several results were concluded. For instance, it was concluded that the blue ocean strategy dimensions are highly applied. It was also found that the elimination process significantly affects the achievement of a competitive advantage. It was also found that the reduction process significantly affects the achievement of a competitive advantage. In addition, it was found that the increasing process significantly affects the achievement of a competitive advantage. It was found that the innovation process significantly affects the achievement of a competitive advantage. In the light of the aforementioned results, several recommendations were suggested by the researchers. For instance, the researchers recommend providing customers with service guarantees by the Jordanian telecommunication companies. In addition, the researchers recommend overcoming the obstacles that hinder the application of the blue ocean strategy by the senior management. The researchers recommend utilizing the blue ocean strategy by companies and avoiding negative competition. The researchers also recommend making significant strategic changes in an ongoing manner. Such changes should be provided with support by the board of directors.

Keywords: The blue ocean strategy, elimination, innovation, raising, reduction, competitive advantage

1. Introduction

The (blue ocean strategy) is considered a modern expression in the business field. The latter strategy is adopted by companies for marketing their products and avoiding negative competition. It is based on creating blue oceans rather than creating red oceans. That is done through seeking to create an uncontested market place rather than competing within the existing market place. The latter strategy is usually adopted by the leading companies. When seeking to create an uncontested market place, the competition shall be irrelevant. Thus, prospects for growth shall be high.

One of the key principles of the latter strategy is the (value innovation) principle. Adopting the latter principle shall raise the company's value and provide customers with a value. That shall leave competitors helpless. Through the blue ocean strategy, a new demand shall be created by the company. There shall be also uncontested markets created in which the competition is irrelevant. In the latter markets, there shall be no bloody conflicts between companies. In fact, the company shall excel without experiencing a conflict its other competitors. Today, there is an intensive competition between companies. In the light of such a competition, it became harder for companies to gain profits, grow, succeed and outperform their competitors. It also became harder for companies to obtain a greater market share. Thus, it became harder for leading companies to maintain their performance level. Hence, companies today are in need for adopting new approaches and strategies that enable them to

become distinguished and leading companies. Adopting such approaches and strategies shall enable companies to maintain their position in the market.

Through the blue ocean strategy, the competition shall be irrelevant and several strategic tools shall be used for creating blue oceans. In addition, the latter strategy involves designing an analytical structure by a creative person. The effectiveness of the structure shall be tested before adopting it.

2. Statement of the Problem

Today, there is an intensive competition between companies. In addition, the supply is greater than demand. Companies need to succeed and develop. They also need to search for markets that do not include competitors. There is also an intensive competition between the Jordanian telecommunication companies. Therefore, the present study aimed to explore the impact of applying the blue ocean strategy on the achievement of a competitive advantage in the Jordanian telecommunication companies. The researchers aimed to explore that in the light of the recommendations provided by Hashem & Joudeh (2017) which emphasized the importance of using the blue ocean in business organizations.

3. The Study's Questions

Through the present study, the researchers aimed to answer the following questions:

Q.1) Is there any statistically significant relationship between applying the blue ocean strategy and the achievement of a competitive advantage in the Jordanian telecommunication companies?

Q.2) Is there any statistically significant relationship between applying the blue ocean strategy dimensions(the elimination process, the reduction process, the increasing process, the innovation process) and the achievement of a competitive advantage in the Jordanian telecommunication companies ?

4. The Study's Significance

The present study is considered significant due to the following reasons:

1) Today, companies are highly in need for achieving success and a competitive advantage. That is needed to ensure survival and generate profits. Hence, the present study helps companies in achieving a competitive advantage.

2) It is highly necessary to explore the relationship between the application of the blue ocean strategy and the achievement of a competitive advantage. That is necessary because the competitive advantage is a significant indicator for identifying an organization's success.

3) In case the blue ocean strategy proved its effectiveness through studies, it shall be utilized by companies for achieving success and growth. That shall enable companies to win the competition.

5. The Study's Objectives

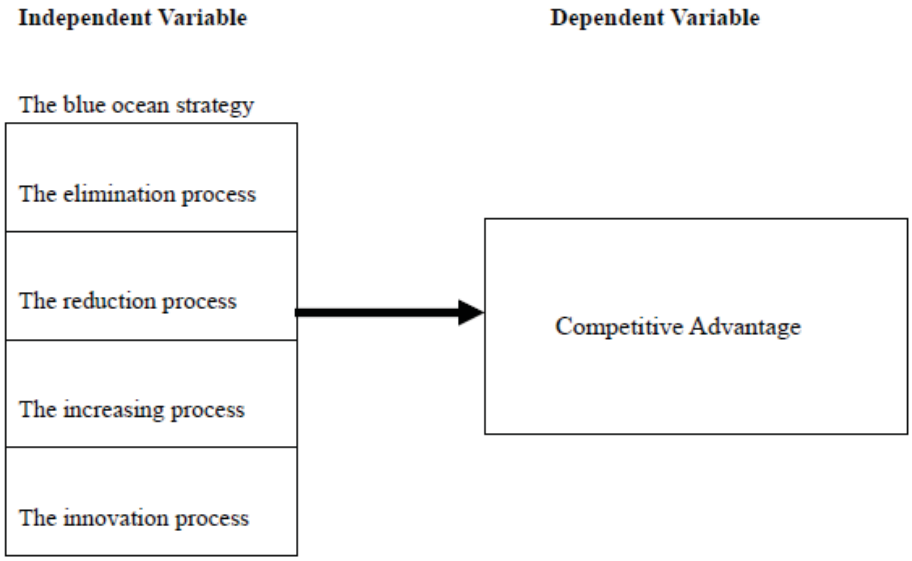
The present study aimed at:

1) Identifying the impact of applying the blue ocean strategy on the achievement of a competitive advantage in the Jordanian telecommunication companies.

2) Identifying the impact of the blue ocean strategy dimensions jointly and separately on the achievement of a competitive advantage in the Jordanian telecommunication companies.

3) Suggesting several recommendations which may be useful for researchers, administrators, and policy makers in business organizations.

6. The Study's Model



Source: (Hashem &Joudeh, 2017)

7. The Study's Hypotheses

The Main Hypothesis:

H0.1: The blue ocean strategy dimensions jointly do not have any statistically significant impact on the achievement of a competitive advantage in the Jordanian telecommunication companies

The Sub- Hypotheses

H0.1.1: The elimination process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage in the Jordanian telecommunication companies

H0.1.2: The reduction process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage in the Jordanian telecommunication companies

H0.1.3: The increasing process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage in the Jordanian telecommunication companies

H0.1.4: The innovation process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage in the Jordanian telecommunication companies

8. The Theoretical Framework

The meaning of the Blue Ocean Strategy

According to Kim and Mauborgne (2005), the blue ocean strategy enables companies to achieve their goals and apply their strategies. Through the latter strategy, customers are provided with value and good offers. In contrast to the red ocean strategy, the blue ocean strategy makes the competition irrelevant. It aims to achieve differentiation and low cost simultaneously. It also aims to create an uncontested market place that companies can't compete in. In addition, it aims to break the value cost trade off. It aims at aligning the company's activities in accordance with the cost reduction strategy. That should be done to achieve differentiation.

The expression (blue ocean strategy) is a new expression in the business management field in general and the marketing management field in particular. It is called so because it aims to eliminate the intensive competition in which competitors fight with each other for the same thing. Through such fight, competitors turn the market place into a bloody battlefield. Thus, eliminating the competition shall make the market place similar to a clear blue water that doesn't include bloody sharks fighting for the same pray. As for the red ocean strategy, it includes a market place that is full of competitors. Such a market place is similar to an ocean full of bloody sharks that keep fighting one another to get the same prey. Such fight shall turn the water bloody.

It should be noted that scholars have provided different definitions for the expression (blue ocean strategy). Such definitions differ due to the difference between scholars in terms of orientations and ideologies. Some of those definitions are presented in table 1 below:

Table 1. Some of the definitions of the expression (blue ocean strategy)

No.	Source	Definition
1	Kim & Mauborgne (2005)	This strategy aims to create a new market place which hasn't been discovered by anyone nor any competitor before. In the new market, the company shall not have any one to compete with. Thus, the competition shall be irrelevant. That is because the rules of the game haven't been set yet.
2	Armstrong & Kotler (2007)	Through applying this strategy, a company aims to understand and identify customers' needs and desires. It also aims to develop a strategy in accordance with those needs and desires. It aims to provide customers with a value and build good relationships with them. It also aims to achieve all of that without having to compete with others.
3	Kotler (2008)	Through applying this strategy, a company aims to go beyond the existing industry boundaries. It also aims to create a new market place to sell products without competing with others
4	Yang (2007)	Through applying this strategy, a company aims to create a new uncontested market place and avoid competing with others.

Yang (2007) believes that applying the blue ocean strategy means that a company must search for a new uncontested market place. Such a market place must be unknown by competitors in order to create a new demand. That shall enable the company to find new investment opportunities. Through such opportunities, the company can ensure survival, achieve growth and gain profits. In other words, applying the blue ocean strategy means that the company must produce something that hasn't been produced before anyone else. It also means that the company must adapt itself for fulfilling the customers' needs and desires.

In fact, there are many reasons that make companies in need for applying the blue ocean strategy. Such reasons may include the following (Kim & Maubrogne, 2005, p.4):

1) The technologies used for industrial production have been developing rapidly
2) The numbers of industries have been increasing and the supply exceeds the demand.
3) Suppliers are allowed to produce different types of services and products which haven't been produced before.
4) Shifting towards globalization. That is represented in the globalization of markets, and the automatic exchange of information. In addition, technological advancements have been spreading quickly.
5) It is difficult to predict the economic fluctuations that shall occur in the international business environment. It is also difficult to predict any change that may be made to the social and environmental legislations.

Dimensions of Blue Ocean Strategy:

The following is a brief explanation of each of these dimensions, which will be the cornerstone of adopting the Blue Ocean Strategy:

- **Elimination process**: Business organizations exclude some elements they deem unnecessary in their work, reducing costs to a minimum, without affecting sales and quality levels.
- **Reduction process**: The reduction of some of the work procedures that the organization deems unnecessary, which in turn is reflected in the reduction of expenses and expenses is not justified, which contributes to reduce the total cost with the stability of profits achieved
- **Increasing process:** It is intended to add some materials and procedures with the ability to increase and improve the quality of products provided to customers
- **Innovation process:** Is one of the advanced characteristics of organizations in changing environments. It means transforming creative ideas into useful outcomes, or any new idea, practice, or expression for the individual who adopted. (Al Attar, 2010)

Competitive Advantage:

Achieving a competitive advantage has become a strategic goal that is sought by all the business organizations. It is sought in the aim of handling the intensive competition and overcoming challenges that are associated with the new economic climate. The company's ability to achieve a competitive advantage is an indicator for the

company's ability to fulfill its customers' needs. It is also an indicator for the company's ability to provide its customers with the value they seek. Such a value may be represented in a highly quality level.

Scholars have provided several definitions for the expression (competitive advantage). For instance, Liu (2013, p. 15) defines competitive advantage as the product's attribute which allows the company to hold a high competitive position in the market. In other words, the competitive advantage is the product's attribute which allows the company to outperform its competitors in the market. Stevenson (2017, p. 15) suggests that as company aims to achieve a competitive advantage in the aim of fulfilling its customers' needs and desires. That is sought for attracting customers.

Evans et al. (2007, p. 32) suggest that the competitive advantage is an indicator for the company's ability to excel in financial and marketing aspects. However, achieving a competitive advantage requires meeting several requirements. For instance, it requires identifying the customers' needs and desires by the top management. It also requires identifying the way of fulfilling those needs and desires through the supply chain. It also requires delivering the concerned service or product on the right time to the customer. In addition, achieving a competitive advantage requires taking into consideration the operational capacity rate.

Johnson & Scholes (2002, p. 55) suggest that the achievement of a competitive advantage is affected by two factors. The first factor is the company's ability to outperform its competitors. The second factor is the company's ability to excel in attracting customers. The company's ability to outperform its competitors depends on quality, price, time of delivery, after-sale services, and/ or innovation. It also depends on the company's ability to adapt itself quickly. As for the company's ability to excel in attracting customers, it depends on the company's ability to fulfill customers' needs and desires within local and global markets. Being able to attracting customers shall raise the customers' satisfaction level. It shall raise the company's prospects for growth and survival and the company's profits.

It should be noted that the company's competitive capabilities shall enable it to achieve competitive advantages. It shall also enable it to set effective strategies for competing with others. Having valuable resources shall provide the company with competitive capabilities. It shall also enable the company to achieve a competitive advantage.

Competitive advantages may include: the distinguished skills that employees have. Those skills enable the company's employees to outperform the competitors' employees. Such skills include the employees' ability to respond effectively. They also include the skills acquired while working within the company. A competitive advantage may include an effective information system that the company's has.

A competitive advantage must be examined well by the managers before informing others about it. The strengths of the competitive advantage must be identified and examined well. After that, the company must invest in the competitive advantage to improve its strength and reduce its weaknesses. That should be done to get a good competitive position, and outperform competitors. In addition, investing in the competitive advantage shall make it stuck in the head of customers and competitors.

Competitive advantages may be represented in a cost advantage or good offers. If the company is able to analyze the market well and set a good strategy for itself, customers shall identify their roles. That shall enable the company to increase its market share, gain more profits, and obtain benefits.

In order to achieve a competitive advantage, an organization must identify the existent and possible opportunities. That should be done through analyzing the competition. Such an analysis involves predicting the things that can attract customers at the time. Such an analysis also involves identifying the company's strengths and weaknesses in comparison to its competitors. After that, the scope and basis of the sought competitive advantage must be identified based on the fields of competition. After that, the competitive advantage shall be achieved.

When making a strategy for competition, the value provided to customers must be taken into consideration. That is because providing such a value shall make the company distinguished from other companies. When making such strategies, the company must provide its significant capabilities with much attention (Dube & Renaghan, 1999, p. 23).

The relationship between the application of the blue ocean strategy and the achievement of a competitive advantage:

Many researchers found that there is a relationship between the application of the blue ocean strategy and the achievement of a competitive advantage. Ehsan (2013) found that the application of the blue ocean strategy plays a significant role in making organizational strategic changes. An analogy was made between the blue ocean strategy and the ocean which water is clear and blue. For instance, in the blue ocean strategy, the market place

doesn't include competitors fighting for the same thing. That is similar to the ocean which water is clear and blue because it doesn't include bloody sharks fighting for the same pray. In contrast, an analogy was made between the red ocean strategy and the red ocean which water is bloody. For instance, in the red ocean strategy, the market place includes competitors fighting for the same thing. That's similar to an ocean which water is bloody because it includes sharks fighting for the same pray.

Jen-te (2010) suggests that the blue ocean strategy enables the company to make new brands, revive old brands, develop new industries, and make strategic alliance. It also enables the company to adjust the distribution channels, improve the perceived value and create a suitable environment.

Andrew et al. (2009) suggest that the blue ocean strategy makes significant changes in the company's strategic management. For instance, through the latter strategy, the value innovation principle is adopted by the company in the aim of achieving a competitive advantage. Through the latter strategy, the company aims to search for uncontested market places and create a new demand.

9. The Study's Methodology

In order to achieve the study's goals, a descriptive analytical approach was adopted. Through such an approach, the researchers collected information from respondents in the field. They also used two types of data. These types are presented below:

First: Secondary data:

This kind of data includes the data presented in documents, pamphlets, books, periodicals, journals, and previous studies. It also includes statistics and the data obtained through using the World Wide Web.

Second: Primary data:

This kind of data includes the data collected through using the questionnaire forms. The questionnaire consists from two parts. Through the first part, the researchers aimed to collect the respondents' occupational and demographic data (i.e. gender, age, academic qualification and years of experience). Through the second part, the researchers aimed to collect data about the independent variable (i.e. the blue ocean strategy) and the dependent variable (i.e. the achievement of a competitive advantage). The study's questionnaire was developed based on the questionnaire that was developed by Hashem & Joudeh (2017).

The researchers of the present study adopted the five point Likert scale. The latter scale consists from the following rating points:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Score	5	4	3	2	1

10. The Study's Population and Sample

The study's population involves all the administrators who work in medium and high levels at the Jordanian telecommunication companies. These companies are: Zain Co., Umniah Co., and Orange Co. These companies form the backbone of telecommunications companies in the Jordanian market, accounting for their largest share of the telecommunications market in Jordan As for the sample; it consists from 100 administrators working at Jordanian telecommunications companies. The sample was chosen through adopting the convenience sampling method.

11. The Reliability Test

In order to measure the instrument's internal consistency, the values of Cronbach alpha coefficient were calculated. The overall rate of Cronbach alpha coefficient is 84.6 %. It is considered an accepted rate. (Malhotra, 2004)

12. The Statistical Analysis Method

The researchers used the statistical analysis methods that suit the nature of the study's variables. They also used the relevant descriptive statistical methods, which are: frequencies, arithmetic mean and standard deviation. The researchers also conducted a regression analysis.

13. Results

First: Characterizes of the Study's Sample

1)- Gender:

Table 2. Distribution of the Study's Sample according to Gender

Gender	Frequency	Percentage %
Male	58	58
Female	42	42
Total	100	100

Based on table (2), it can be noticed that the number of males is greater than the number of females. That indicates that the number of male administrators is greater than the number of female administrators in the Jordanian telecommunication companies

2)- Age:

Table 3. Distribution of the Study's Sample according to Age

Age	Frequency	Percentage %
Less than 30 years	29	29.0
30 – 40 years	44	44.0
41 – 50 years	18	18.0
More than 50 years	9	9.0
Total	**100**	**100**

Based on table (3), it can be noticed that the ones whose age is between 30 – 40 years represent the greatest percentage (44 %). It can be also noticed that the ones whose age is greater than 50 years represent the least percentage (9 %).

3)- Years of Experience

Table 4. Distribution of the Study's Sample according to Years of Experience

Years of Experience	Frequency	Percentage %
Less than 5 years	38	38
5 – 10 years	17	17.0
11 – 15 years	39	39
Greater than 15 years	6	6.0
Total	100	100

Based on table 4, it can be noticed that the ones who have 11 – 15 years of experience represent greatest percentage (39 %). It can be noticed that the ones who have more than 15 years of experience represents the least percentage (6 %).

4)- The company

Table 5. Distribution of the Study's Sample according to the company

Company	Frequency	Percentage %
Zain Co.	45	45
Orange Co.	32	32.0
Umniah Co.	23	23.0
Total	100	100

Based on table (5), it can be noticed that the ones who work for Zain Co. represent the greatest percentage (45 %). It can be also noticed that the ones who work for Umniah and Orange companies represent the least percentage (23 %).

14. Descriptive Analysis

This part presents the descriptive results of the descriptive analysis. These results of the descriptive analysis are presented in table 6 below:

Table 6. Results of the descriptive analysis

No.	Statement	Mean	Std. Deviation
1	The process of elimination	4.5440	.39295
2	The process of reduction	4.5600	.37118
3	The process of raising	4.2780	.48149
4	The process of innovation	4.5267	.50736
5	Competitive Advantage	4.2440	.55529

Based on table (6), it can be noticed that the respondents' attitudes are positive. That is because the means are greater than 3 (average of the five rating points of the scale)[1].

[1]The average of the five rating points of the scale was calculated through the following method:

15. Testing the Study's Hypotheses:

A)- Testing the Main Hypothesis:

H0.1: The blue ocean strategy dimensions jointly don't have any statistically significant impact on the achievement of a competitive advantage

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.957[a]	.917	.913	.16375

a. Predictors: (Constant), Innovation, Reduction, Raising, Elimination

Table 8. ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	27.979	4	6.995	260.871	.000[b]
	Residual	2.547	95	.027		
	Total	30.526	99			

In order to test the main hypothesis, the researchers conducted the multiple regression analysis. It was found that R value is 0.957. This value represents the strength of the correlation between the blue ocean strategy dimensions jointly and the achievement of a competitive advantage.

It was also found that the R square is 0.917. That means that 91.7 % of the changes in the competitive advantage are attributed to the blue ocean strategy dimensions jointly.

Table (8) presents the results of the analysis of variance (ANOVA). Based on the latter table, it can be noticed that the F value (260.871) is statistically significant at statistically significance level of (0.05). Thus, the blue ocean strategy dimensions jointly have a statistically significant impact on the achievement of a competitive advantage.

B)- Testing the first sub-hypothesis:

H0.1.1: The blue ocean strategy dimensions jointly do not have any statistically significant impact on the achievement of a competitive advantage in the Jordanian telecommunication companies

Table 9. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908[a]	.824	.822	.23428

a. Predictors: (Constant), Elimination

Table 10. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.147	1	25.147	458.145	.000[b]
	Residual	5.379	98	.055		
	Total	30.526	99			

Table 11. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.584	.273		-5.797	.000
	Elimination	1.283	.060	.908	21.404	.000

In order to test the first sub-hypothesis, the researchers conducted a linear regression analysis. It was found that R value is 0. 908. This value represents the strength of the correlation between the elimination process and the achievement of a competitive advantage.

It was also found that the R square is 0. 824. That means that 82.4 % of the changes in the competitive advantage are attributed to the elimination process.

Table (11) presents the results of the analysis of variance (ANOVA). Based on the latter table, it can be noticed that the F value (458.145) is statistically significant at statistically significance level of (0.05). Thus, the elimination process - which is a blue ocean strategy dimension – has a statistically significant impact on the

$\frac{The\ sum\ of\ the\ \text{five rating points}}{\text{The number of the rating points}} = \frac{1+2+3+4+5}{5} = 3$

achievement of a competitive advantage.

C)- Testing the Second Hypothesis

H0.1.2: The reduction process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage

Table 12. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.487[a]	.237	.229	.48748

Table 13. ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.238	1	7.238	30.457	.000[b]
	Residual	23.289	98	.238		
	Total	30.526	99			

Table 14. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.922	.604		1.527	.130
	Reduction	.728	.132	.487	5.519	.000

In order to test the second sub-hypothesis, the researchers conducted a linear regression analysis. It was found that R value is 0. 487. This value represents the strength of the correlation between the reduction process and the achievement of a competitive advantage.

It was also found that the R square is 0. 237. That means that (23.7 %) of the changes in the competitive advantage are attributed to the reduction process.

Table (13) presents the results of the analysis of variance (ANOVA). Based on the latter table, it can be noticed that the F value (30.457) is statistically significant at statistically significance level of (0.05). Thus, the reduction process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage

D)- Testing the third sub-hypothesis:

H0.1.3: The increasing process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage.

Table 15. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738[a]	.545	.540	.37656

Table 16. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.630	1	16.630	117.279	.000[b]
	Residual	13.896	98	.142		
	Total	30.526	99			

Table 17. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.602	.338		1.781	.078
	Raising	.851	.079	.738	10.830	.000

In order to test the third sub-hypothesis, the researchers conducted the linear regression analysis. It was found that R value is 0. 738. This value represents the strength of the correlation between the increasing process and the achievement of a competitive advantage.

It was also found that the R square is 0. 545. That means that 54.5 % of the changes in the competitive advantage are attributed to the increasing process.

Table (16) presents the results of the analysis of variance (ANOVA). Based on the latter table, it can be noticed that the F value (117.279) is statistically significant at statistically significance level of (0.05). Thus, the increasing process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage.

E)- Testing the fourth sub-hypothesis

H0.1.4: The innovation process - which is a blue ocean strategy dimension – doesn't have any statistically significant impact on the achievement of a competitive advantage.

Table 18. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.811[a]	.657	.654	.32664

a. Predictors: (Constant), Innovation

Table 19. ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.070	1	20.070	188.113	.000[b]
	Residual	10.456	98	.107		
	Total	30.526	99			

Table 20. Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.227	.295		.770	.443
	Innovation	.887	.065	.811	13.715	.000

In order to test the third sub-hypothesis, the researchers conducted the linear regression analysis. It was found that R value is 0. *811.* This value represents the strength of the correlation between the innovation process and the achievement of a competitive advantage.

It was also found that the R square is 0. 657. That means that 65.7 % of the changes in the competitive advantage are attributed to the innovation process.

Table (19) presents the results of the analysis of variance (ANOVA). Based on the latter table, it can be noticed that the F value of (188.113) is statistically significant at statistically significance level of (0.05). Thus, the innovation process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage.

16. Results and Recommendations

Results:

The researchers of the present study concluded the following:

1)- It was found that the blue ocean strategy dimensions are highly applied.

2)- The elimination process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage

3)- The decreasing process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage

4)- The increasing process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage.

5)- The innovation process - which is a blue ocean strategy dimension – has a statistically significant impact on the achievement of a competitive advantage.

The results of this study confirm the importance of the blue ocean strategy in business organizations, as it contributes to enhancing its competitive advantage and contributes to increasing its market share in the telecommunications market in Jordan

Also, the results of the present study are in agreement with the results of the studies that were reviewed. Such studies include the ones conducted by Ehsan (2013); Jen-te (2010); Andrew et al. (2009); and Hashem & Joudeh (2017).

Recommendations:

In the light of the aforementioned results, the researchers recommend:

1) Providing customers with service guarantees by the Jordanian telecommunication companies. That is because providing service guarantees affects customers' decisions in terms of the company that they shall deal with.

2) Overcoming the obstacles that hinder the application of the blue ocean strategy by the senior management

3) Utilizing the blue ocean strategy by companies and avoiding negative competition. The researchers also recommend making significant strategic changes in an ongoing manner. Such changes should be provided with support by the board of directors.

4) Innovating new things in an ongoing manner by the company. That should be done to ensure survival and keep competing with other companies.

5) Making policies in accordance with the customers' needs and desires.

6) Providing customers with services of high quality level. That shall raise the company's sales volume and profits.

7) Keeping records that include information about all the company's resources and business.

8) Future studies are recommended in the field of applying blue ocean strategies in other service sectors such as: Insurance, Hospitals, etc.

17. Limitations of the Study

This study aimed to identify the impact of applying the blue ocean strategy on the achievement of a competitive advantage in the Jordanian telecommunication companies from the view point of administrators working in medium and high levels only.

References

Al Attar, F. (2010). Blue Ocean Philosophy and its Role in Achieving Competitive Superiority : A study of the Opinions of Some Workers in Zain Telecommunication Company. *Journal of University of Karbala, 8*(3), 52-68.

Andrew, B., André van, S., & Roy, T. (2009). Blue Ocean versus Competitive Strategy: Theory and Evidence. University of Amsterdam, the Netherlands.

Armstrong, G., & Kotler, P. (2007). Marketing: An introduction. Upper Saddle River, N.J: Pearson Prentice Hall.

Dube, L., & Renaghan, L. (1999). Sustaining Competitive Advantage. *The Cornell Hotel and Restaurant Administration Quarterly, 40*(6), 27-33. https://doi.org/10.1177/001088049904000614

Ehsan, M. (2013). Blue Ocean Strategy As Revolution In The Field Of Strategic Management. *Interdisciplinary Business Research, 4*(9), 39-41.

Evans, J. R., Evans, J. R., & Collier, D. A. (2007). Operations management: an integrated goods and services approach", Thomson/South-Western, U.S.A.

Hashem, T., & Joudeh, J. (2017). The Extent of Implementation of the Blue Ocean Strategy in Jordanian Commercial Banks. *International Journal of Current Advanced Research, 6*(02), 1999-2004.

Jen-te, Y. (2012). "Identifying the attributes of blue ocean strategies in hospitality". *International Journal of Contemporary Hospitality Management, 24*(5), 701-720. https://doi.org/10.1108/09596111211237255

Johnson, G., & Scholes, K. (2002). Exploring Corporate Strategy, New York: Prentice Hall.

Kim , W., chan & Mauborgne, R. (2005). Blue Ocean strategy : How to creat uncontested market space and make the competition irrelevant , Harvard business school publishing corporation, printed in the U. S. A.

Kotler, P. (2008). Principles of Marketing , , pearson prentice- Hall , U.S.A. .

Liu, T. L. (2003). Organization Learning and Social Network Market Orientation: The Role of Resource-Based View Strategy in Gaining Dynamic, Capabilities Advantage", www.hicbusiness.org ,Working Paper, 1-9.

Malhotra, N. K. (2004). Marketing Research. New Jersey: Prentice Hall Mifflin Company

Stevenson, W. J. (2007). "Production / Operations Management", Von Hoffmann Press.

Yang, K. (2007). Voice of the customer : capture and analysis , prentice – Hall.

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Degree of Internationalization, Staff Localization and Bank's Overseas Performance: Evidence from China's Top Four Banks

Li Xiong[1], Ke Xu[1], Cong Hu[1], Xiaojuan He[2]

[1]School of International Business, Southwestern University of Finance and Economics, Chengdu, China

[2]Guobao Life Insurance Co., Ltd. Chengdu, China

Correspondence: Li Xiong, School of International Business, Southwestern University of Finance and Economics, 555 Liutai Rd, Wenjiang, Chengdu, Sichuan 611130, China. E-mail: leexiong73@swufe.edu.cn

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Abstract

In international expansion, staff localization helps Chinese commercial banks to provide services to meet local needs. This paper explores the mediation effect of staff localization and refines the measurement of bank's overseas performance, to reveal the transmit channel of how the degree of internationalization (DOI) affects bank's overseas performance. With data from 2009 to 2015 of China's top five banks as the sample to build a panel data model, the result suggests that staff localization fully mediates the relationship between DOI and bank's overseas performance, and DOI exercises positive effect on the overseas performance of intermediary business, but no significant effect on the overseas performance of deposit/loan business. Implications and suggestions for bank's overseas practice are discussed.

Keywords: degree of internationalization, staff localization, deposit/loan business, intermediary business

1. Introduction

Along with economic integration, institutional transition, financial liberalization as well as other causes, especially a substantial increase in the presence of foreign banks in China, some Chinese banks expanded their business across borders to increase market share and competitiveness (Chen et al., 2017). Emerging market firms tend to have fewer resources than developed market firms and face greater costs due to weaker competitive environments (Eden & Miller, 2004; Huang & Sternquist, 2007; Miller & Parkhe, 2002). Chinese banks are therefore typically younger and less experienced than banks from developed markets. Chinese banks adapt to the dynamic external environment by staff localization, which can help overcome the disadvantages of operating at a distance and in unfamiliar settings (Hymer, 1976). In this process, the expertise and ideas brought by local employees strengthen the banks' service and innovation ability, thus improving the overseas operation of the banking business. However, the existing literatures mainly focus on the analysis of the direct impact of internationalization degree on bank performance, and rarely consider the transmission path, namely the intermediary role of staff localization.

The current main business of Chinese banks consists of two parts, the deposit/loan business and the intermediary business. Because of the different nature of these two categories of businesses, the impact of local employees on the bank's internationalization process is different. The operation process of the deposit/loan business is similar both in and outside China, and the intermediary effect of local employees is not obvious. Commercial banks in developed countries gradually take the intermediary business as a profit growth point, and both development level and financial innovation ability in intermediary business are continuously deepened. In contrast, Chinese banks now have high repeatability in intermediary business, confined to traditional labor-intensive intermediary businesses, such as settlement, guarantee etc. And because of the lack of domestic ambidextrous talents, Chinese banks are restrained from other knowledge intensive intermediary businesses. But this can be improved by employing local staff in the process of overseas expansion. Therefore, the business philosophy that the banks learn through staff localization when expanding overseas should be mainly used in the intermediary businesses such as investment consultation and financial management. But the existing literature generally studies the impact of internationalization on the overall performance of banks.

This paper contributes to this stream of research using a large panel of four state-owned commercial banks

(commonly referred to as the "Big Four" banks), i.e., Bank of China (BOC), Agriculture Bank of China (ABC), China Construction Bank (CCB) and the Industrial and Commercial Bank of China (ICBC), in the period of 2009-2015. With respect to previous work, the paper attempts to provide a more comprehensive framework, systematically analyzing the relationships among DOI, staff localization and bank's overseas performance, and exploring the mechanism of global expansion on performance. The results show that DOI has a direct positive effect on the overseas performance of the deposit/loan business, but the intermediary role of staff localization is insignificant. However, DOI has a direct positive effect on overseas performance of the intermediary business, and staff localization partially plays a positive mediating effect between the DOI and overseas performance of the intermediary business. At the same time, highly internationalized Chinese banks are more aggressive in promoting staff localization.

The contribution of this paper lies in two aspects: (1) from theoretical perspective, this paper discussed the internationalization of banks from the perspective of organizational change process, with the introduction of staff localization as the intermediary variable and refined the measurement of bank's overseas performance, a new inspection index of internationalization, opening up the "black box" of internationalization degree influencing the performance of a bank. The system investigates the relationship between internationalization degree, staff localization and bank's overseas performance, and reveals the transmission path of the influence of overseas expansion on performance. (2) From practical perspective, either through setting a new branch or taking the path of mergers and acquisitions to promote the international network layout, Chinese banks are to participate in the competition under the background of marketization. China's accelerating interest rate liberalization reform process has forced banks to shift from a single profit model on net interest margin to a breakthrough in the search for differentiated management. This paper from the perspective of the organizational change, analyzing Chinese banks' path of resorting to staff localization to develop intermediary business and affect the performance of the path, has certain guiding significance to other banks' overseas expansion behavior.

The remainder of this paper is arranged as follows: the second part is the literature review; the third part is theoretical foundation and research hypothesis; the fourth part is research design; the fifth part is the empirical result; the sixth part is endogeneity and robustness test. Finally, this paper concludes.

2. Literature Review

2.1 Internationalization and Performance of Bank

Domestic and foreign scholars mainly study the relationship between internationalization and bank's performance from two perspectives.

One is to explore the causal relationship between internationalization and bank performance. Walid and Eric (2009) argue that the existing literature in international business, exploring the relationship between DOI and performance, assume the implicit assumption that DOI has a direct impact on bank performance, and ignore the fact that banks have advanced technology and products, and good performance in the domestic market, which tend to expand its market share in order to increase profit by overseas expansion. The second is to analyze the direct impact of internationalization on bank performance (e.g., Xiong et al., 2014; Liang et al., 2013; Wan et al., 2008).

Currently, domestic and foreign research on the internationalization degree and bank performance concentrates only on the degree of internationalization, a direct impact on the performance of banks without taking into account the transmission path, namely the intermediary role of the staff localization. The relationship between internationalization degree and bank performance cannot be further explored from the perspective of direct impact which only studies the effect of internationalization on the overall performance of Banks. As for how Chinese banks acquire the experience and ideas, as well as which type of business the experience and ideas are applied to so as to realize the change of bank overall operating performance, there is little literature analysis in-depth.

2.2 Staff localization and Performance

For the relationship between localization and performance, the existing literature mainly from the perspective of human resource management analyzes the performance influence of multinational companies in China implementing localization (e.g., Wei & Zheng, 2010; Jing, 2011), and pays less attention to the localization behavior of Chinese enterprises in overseas, nor does it study the improvement of business operation ability from the localization of employees. The research samples includes various industries, but the business operation of the bank is significantly different from that of other industries, so it is necessary to analyze the influence of the localization of the employees on the bank's performance separately. And the localization is considered to be less

of an intermediary variable. Taking the subsidiaries established by multinational companies in China as examples, Ye (2010) introduces the localization strategy as the intermediary variable to analyze the relationship between enterprise competence and performance.

2.3 Measurement of DOI and Performance

2.3.1 DOI

The contents of DOI include business, institution, equity, management, human resources and supervision, and the contents of these five aspects are generally carried out in practice (Guo, 2008).The selection of measure of internationalization degree mainly focuses on three aspects of business, organization and human resources. These include a single index and a composite index. In the single index, the most widely used is the degree of internationalization of foreign assets and their accounting representatives on behalf of commercial Banks (Feng & Ouyang, 2003).Among the composite indicators, the most representative is the transnationality index, which is the average value of overseas assets, overseas operating income and overseas employees.

2.3.2 Performance Measurement of Commercial Banks

There are many ways to measure the performance of commercial banks. The currently widely-used are Tobin Q value, Return on Assets (ROA) and other single financial indicators as well as comprehensive consideration of various indicators. Through comparative analysis of the measure of scholars both at home and abroad it can be found that for most foreign scholars the Tobin Q value is used to measure the performance of commercial banks (Liang et al., 2013), and a few use the Return on Assets as a performance measure (Andres & Vallelado, 2008; Walid & Eric, 2009). But the Tobin Q is the ratio of market cap to book value. So it can only be used to measure the performance of listed companies, and the shares of listed companies is changing at any time, Thus price fluctuation must be taken into consideration in the empirical research, which leads to more complexities when specifying the values.

The most widely used measure by domestic scholars are the Return on Assets and other single financial indicators (e.g. Sun et al., 2006; Wang et al., 2012). However, the single financial index cannot comprehensively evaluate the performance level of commercial banks, which can only partly reflect the operation condition of the banks. There are also some studies using a combination of various financial indicators (e.g. Qi, 2008; Liu et al., 2012). Although there are many ways to measure the performance of commercial banks, they have their own shortcomings. And there is no universally accepted approach.

3. Theory and hypotheses

3.1 DOI and Overseas Performance

"Follow clients from home country" is one of the biggest motivations for the internationalization of Chinese banks (Deng, 2008; Liu, 2007). Aliber (1984) argues that, to avoid losing customers, banks will expand their business overseas in order to provide payment settlement and trade financing facility to cooperate with the foreign direct investment or trade behavior of home country’s clients. Based on the long-term relationship with domestic banks, multinational companies would also be more inclined to handle the deposit/loan business in the familiar home country’s banks in the process of opening up overseas markets. Therefore, it is the profit point and foothold of the internationalization operation of Chinese commercial banks to carry out the deposit/loan business with overseas clients from motherland. However, in the international environment, Chinese banks have not yet completed the global network layout and with their limitation of size, making Chinese multinational companies more likely to choose large multinational foreign banks with wider distribution. Along with the increase in setting up branches overseas and the DOI, the gap between Chinese banks and foreign banks will be narrowed. So they’re able to maintain and consolidate home country's existing customer base, and then improve deposit/loan business internationalization performance. This leads to the following hypothesis:

H1a: The higher the DOI, the better the performance of its overseas deposit/loan business.

In the international business environment, with interest rate marketization, Chinese banks lost their profit margins, thus improving their dependence and focus on intermediary business (Wang & Feng, 2007). And the change of rivals has forced Chinese banks to compete closely with big foreign multinational banks. Large foreign multinational banks tend to have stronger market researchand new products development capabilities. Their quality and diversity of service in intermediate business have brought great challenges to Chinese banks. According to the market competition effect, this will force Chinese banks to improve their own intermediate business level (Huang, 2011). Baum and Ingram (1998) believe that enterprises can acquire new knowledge by organizing external learning, namely, by observing and imitating products and processes of other successful enterprises. While the research and development of the technology-intensive intermediate business products of

large foreign banks is expensive, due to the strong replication and portability of technology spillovers and with the deepening of internationalization, Chinese banks can improve overseas performance of intermediary business by emulating the types of technology-intensive intermediate business. We therefore propose the following hypothesis for testing:

H1b: The higher the DOI, the better the performance of its overseas intermediary business.

3.2 DOI and Staff Localization

According to the theory of organizational development, changes in the external environment can prompt changes in the organization itself. In the process of bank internationalization, the bank adjusts and improves its function and structure in time to adapt to the local operating environment of the host country as soon as possible. Recruiting local employees is one of the bank's initiatives. Since banks provide credit service, local staffs are more likely to obtain host country's customers' trust. Thus banks can establish good image of Chinese banks in the host country by increasing the employment rate of the host country (Jing, 2011). The deepening of the banks internationalization means that banks need to face more different types of external operating environment, thus promote the behavior of recruiting local employees. The following hypothesis is then proposed:

H2: DOI has positive impact on staff localization.

3.3 Intermediary Effect of Employee Localization

Chinese banks face a very different market environment from their home country when operating a deposit and loan business. Therefore, the Chinese Banks initially can absorb and learn from the experience of overseas operation and deposit and loan business through the localization of employees. But because of the deposit and loan business is a bank's routine business, the degree of homogeneity management is much high. And, with the deepening of internationalization, business management concept brought by the new recruitment of local staff also won't have significant difference. Therefore, the impact on the internationalization performance of the deposit and loan business will not be significant.

The degree of homogenization is high in intermediary business of Chinese banks, only limited to labor-intensive traditional intermediary business, including payment settlement, collection and payment, etc. One of the reasons is that the lack of domestic talents restricts the high value-added type of intermediary business development (Chen, 2015). After all in the intermediary business, technology-intensive intermediate business products are easy to imitate, but knowledge-intensive intermediary business, such as cash management, asset management, and financial advisers can be expanded only through the introduction of talents or nurture new employees. But it is costly and time-consuming to cultivate employees. Since Chinese banks mainly focus on international financial centers and some economically developed cities when choose their locations overseas, where local employees tend to have abundant financial knowledge and global vision, and also have a comprehensive understanding of the economic situation of the host country. Therefore, in the process of overseas expansion of Chinese banks, these banks hire local staff to improve the intermediary business internationalization performance, namely by influencing the bank behavior of hiring local employees, the degree of internationalization, indirectly affect internationalization of intermediary business performance. We therefore propose the following hypotheses for testing:

H3a: The intermediary effect of staff localization on the relationship between DOI and its overseas deposit/loan business is insignificant.

H3b: The intermediary effect of staff localization on the relationship between DOI and its overseas intermediary business is significant.

4. Methodology

4.1 Variables and Method

4.1.1 Variables

In this paper, we refer to the practices of Andres and Vallelado (2008), Walid and Eric (2009), and Guo (2017), which use the proportion of offshore assets to the total assets of banks to measure the degree of internationalization of the bank, as independent variables. Use the proportion of net interest earned by foreign interests in total operating profit of banks and the proportion of net income of commission on total operating profit of bank respectively, to measure internationalization performance of banks in traditional business and intermediary business, as the dependent variable. The intermediary variable, staff localization, refers to the proportion of overseas employees in the total number of employees in the bank.

For the characteristics of the bank itself, existing literature finds that asset size, capital adequacy ratio and

non-performing loan ratio are important factors affecting bank performance (Liu et al., 2012; Walid & Eric, 2009), so this article takes these factors as control variables. Moreover, the four major overseas organizations mainly have business connections with the world financial center and countries with close trade relations with China, so basically include all G20 members. In terms of macro factors, in order to control the impact of the host country's economy on the international performance of Chinese banks, the GDP of the G20 members should be added to the control variables.

The specific meaning of each variable in the model and its calculation formula are listed in Table 1.

Table 1. Variables used in analysis.

Category	Index	Symbol	Meaning
Dependent Variables	Overseas performance	PERF_LX	Overseas net interest income/bank's gross operating income
		PERF_SX	Overseas Net fee and commission net income/ bank's gross operating income
Independent Variables	Degree of internationalization	DOI	Foreign assets / Total bank assets
Intermediary Variables	Staff localization	YG	Overseas local employee/ Total number of bank employees
Controls Variables	Log of total assets	LNZZC	Natural logarithm of total bank assets
	Bad Loan Ratio	NPLR	(loss loan + doubt loan+ secondary loan)/Loan Balance
	capital adequacy ratio	CAR	Capital/ Total risk-weighted assets
	Log of GDP	LNGDP	Natural logarithm of GDP of G20 countries (purchasing power parity)

4.1.2 Method

Using the mediation effect inspection procedure proposed by Wen et al. (2004), this paper tests whether the localization of employees plays a mediating role between the degree of internationalization and the internationalization performance of Bank. The empirical model is constructed in formula (1) to formula (6).

$$PERF\_LX_{it}=\alpha_0+\alpha_1 DOI_{it}+\alpha_2 LNZZC_{it}+\alpha_3 NPLR_{it}+\alpha_4 CAR_{it}+\alpha_5 LNGDP_{it}+\varepsilon_{it} \quad (1)$$

$$YG_{it}=\alpha_0+\alpha_1 DOI_{it}+\alpha_2 LNZZC_{it}+\alpha_3 NPLR_{it}+\alpha_4 CAR_{it}+\alpha_5 LNGDP_{it}+\varepsilon_{it} \quad (2)$$

$$PERF\_LX_{it}=\alpha_0+\alpha_1 DOI_{it}+\alpha_2 YG+\alpha_3 LNZZC_{it}+\alpha_4 NPLR_{it}+\alpha_5 CAR_{it}+\alpha_6 LNGDP_{it}+\varepsilon_{it} \quad (3)$$

$$PERF\_SX_{it}=\alpha_0+\alpha_1 DOI_{it}+\alpha_2 LNZZC_{it}+\alpha_3 NPLR_{it}+\alpha_4 CAR_{it}+\alpha_5 LNGDP_{it}+\varepsilon_{it} \quad (4)$$

$$YG_{it}=\alpha_0+\alpha_1 DOI_{it}+\alpha_2 LNZZC_{it}+\alpha_3 NPLR_{it}+\alpha_4 CAR_{it}+\alpha_5 LNGDP_{it}+\varepsilon_{it} \quad (5)$$

$$PERF\_SX_{it}=\alpha_0+\alpha_1 DOI_{it}+\alpha_2 YG+\alpha_3 LNZZC_{it}+\alpha_4 NPLR_{it}+\alpha_5 CAR_{it}+\alpha_6 LNGDP_{it}+\varepsilon_{it} \quad (6)$$

We conducted the analysis as below: first, we test the significance of formula (1)'s regression coefficient, of which the independent variable is the degree of internationalization (DOI), and the dependable variable is the bank internationalization performance (PERF). If it appears significant, then we move to step 2, otherwise, we stop testing. Step 2: we test in turn the significance of formula (2)'s regression coefficient, of which the independent variable is DOI and the intermediate variable is the localization of staff (YG). , and the significance of formula (3)'s regression coefficient, of which the intermediate variable is staff localization (YG) and the dependent variable is bank internationalization performance (PERF). If both of these two regression coefficients are significant, it indicates that internationalization has impact on bank internationalization performance at least through staff localization. If at least one regression coefficient is not significant, then there is step 3.Step 3: perform Sobel (1982) test. If the result is significant, it indicates that the localization of staff has a mediating effect between internationalization and the internationalization performance of banks, otherwise there is no mediating effect. Repeat the above steps in formula (4), (5) and (6).

4.1.3 Data and Descriptive Statistics

There are five large joint-stock commercial banks and some small and medium sized joint-stock commercial banks, such as China Citic bank, China Merchants bank and Guangdong development bank, which have branches overseas. Among them, the five major banks are the main players of the internationalization of Chinese banks, so they are representative samples. Moreover, the overseas branches of the five great banks have a quite scale and the internationalization development stage of the five is more consistent. However, because Bank of Communications hasn't published its local staff recruitment, the paper only selects BOC, ABC, ICBC and CCB, as samples. The top four banks' data from 2009 to 2015 were hand-sorted from financial statements published on

their official websites. The G20's GDP come from the OECD database. At last a total of 56 samples were obtained from these four banks. Related calculations and charts are completed with the help of Stata13 and Excel. Since there's no data missing, it is considered a balanced panel data.

The descriptive sample data is shown in Table 2.The mean of the proportion of overseas assets is 0.0925, and it can be shown that the internationalization of Chinese banks is relatively low. Meanwhile, the maximum and minimum values are 0.3038 and 0.0054 respectively, which indicates that there are significant differences in internationalization among the four major banks. The mean of the internationalization performance of the deposit and loan business is 0.0630, which is higher than that of the intermediate business. This means that Chinese banks are still more dependent on the deposit and loan business than on intermediate business when operating overseas.

Table 2. Descriptive statistics

Variables	Sample	Mean	Std. Deviation	Min	Max
PERF_LX	56	0.0630	0.0693	0.0052	0.2195
PERF_SX	56	0.0225	0.0276	0.0005	0.0905
DOI	56	0.0925	0.0962	0.0054	0.3038
YG	56	0.0309	0.0444	0.0005	0.1388
LNZZC	56	16.4970	0.2675	15.9201	16.9719
NPLR	56	0.0135	0.0052	0.0085	0.0362
CAR	56	0.1275	0.0131	0.0831	0.1539
LNGDP	56	11.2221	0.0704	11.0941	11.3278

5. Results

After a stability analysis of all the variables in the model using LLC test and IPS test, it was found that all variables were stable at the significant level of 10%. According to the above-mentioned test steps of intermediary effect, all regression models in this paper adopted feasible generalized least squares estimation (FGLS), and "heteroscedasticity-serial-correlation-cross-correlation" steady standard error (Driscoll & Kraay, 1998).The regression results are shown in Table 3.The Sobel test results are shown in Table 4.

Table 3. Regression Results of All Models

	(1)	(2)	(3)	(4)	(5)	(6)
	PERF_LX	YG	PERF_LX	PERF_SX	YG	PERF_SX
DOI	0.6105***	0.4201***	0.5985***	0.2281***	0.4201***	0.1755***
	[0.0533]	[0.0219]	[0.1056]	[0.0168]	[0.0219]	[0.0355]
YG			0.0346			0.1281
			[0.2144]			[0.0698]
LNZZC	-0.0300**	-0.0145**	-0.0312**	-0.0184***	-0.0145**	-0.0137***
	[0.0135]	[0.0067]	[0.0139]	[0.0042]	[0.0067]	[0.0033]
CAR	0.1190	0.0131	0.1397	0.1088***	0.0131	0.0692**
	[0.1100]	[0.0581]	[0.1149]	[0.0397]	[0.0581]	[0.0271]
NPLR	0.2262	-0.2910*	0.2518	-0.1710*	-0.2910*	-0.1716***
	[0.3167]	[0.1532]	[0.3294]	[0.0915]	[0.1532]	[0.0627]
LNGDP	0.0186	-0.0955***	0.0185	-0.0058	-0.0955***	-0.0000129
	[0.0473]	[0.0204]	[0.0503]	[0.0112]	[0.0204]	[0.0104]
constant	0.2697	1.3039***	0.2893	0.3564***	1.3039***	0.2199**
	[0.3949]	[0.1896]	[0.4468]	[0.0974]	[0.1896]	[0.0960]

Note: Standard errors are reported in the square brackets. *, **, *** indicate significance level at 10%, 5% and 1%, respectively.

Table 4. Sobel Test Results

	（1）	（2）
z statistics	0.1614	1.8269
two-tail probability	0.8718	0.0677

5.1 Direct Effect of DOI on Overseas Performance

Hypothesis 1a and 1b estimate the direct impact of banking internationalization on its overseas performance. Hypothesis1a suggests that DOI has a positive direct effect on the performance of overseas deposit and loan business. In formula (3), the DOI coefficient is positive and significant at the significance level of 1%, which indicates that DOI has a direct positive effect on the performance of overseas deposit and loan business, namely,

the improvement of DOI is conducive to the performance of overseas deposit and loan business. This result supports hypothesis 1a. DOI also has a positive direct effect on the overseas performance of the intermediate business. In formula (6), the coefficient of DOI is significantly positive at 1% level, which means that DOI also has a positive direct effect on the performance of the overseas intermediate business, namely the improvement of DOI will promote the performance of the overseas intermediate business. Thus hypothesis 1b is also supported.

5.2 The Positive Influence of DOI on Staff Localization

Hypothesis 2 suggests that DOI has a positive effect on staff localization. In formula (2), the coefficient of DOI is positive and significant at the significance level of 1%, which means that DOI is positively correlated with the localization of staff. This result supports hypothesis 2.

5.3 Intermediary Effect of Staff Localization

Hypothesis 3a and 3b estimate the intermediary role of staff localization in banking internationalization and overseas performance. Assume that 3a indicates that the localization of staff does not play a significant role in business internationalization and overseas deposit and loan business performance. In accordance with the inspection steps of intermediary effect, because DOI coefficient in formula (1) is significant, and one of DOI coefficient in formula (2) and staff localization coefficients in formula (3) is significant, there is step 3, namely Sobel inspection. The results are shown in Table 5 column (1). The statistic is not significant at the significance level of 10%.Then 3a is supported. Hypothesis 3b believes that the localization of staff plays a intermediary role between DOI and the performance of overseas business. In accordance with the inspection steps of intermediary effect, because the DOI coefficient of DOI is significant and one of the DOI coefficient in formula (5) and the staff localization coefficient in formula (6) is significant, go to step 3, namely Sobel inspection. The results are shown in table 5 column (2), and the statistic is significant at the significant level of 10%, which means there is an intermediary effect. Meanwhile, as the regression coefficient of DOI in formula (6) is positive at the significance level of 5%, staff localization has an intermediary effect between DOI and the performance of overseas deposit and loan business, namely DOI has an indirect positive effect on overseas intermediate banking business through an impact on staff localization behaviors. Thus, hypothesis 3b is supported.

5.4 The Influence of Other Control Variables

In formula (3) and (6), the bank's own control variables (Total bank assets) are significantly negative on the significance level of 5% and 1% respectively, as shows that total bank assets are negatively related to overseas performance of both deposit/lending and intermediary businesses. That is to say, the larger the bank size, the lower its overseas performance. This may be because as far as Chinese banks' internationalization level, large size will cause the loss of flexibility to adjust business strategy to adapt to the external environment, which is bad for its overseas deposit/lending and intermediary business performance improvements.

In formula (6), the control variable of the bank, the capital adequacy ratio of the bank, is significantly positive at the significance level of 5%. It shows that the capital adequacy ratio is positively correlated with the overseas performance of intermediary business of the bank, that is, the higher the capital adequacy ratio, the higher the overseas performance of intermediary business. This may be because the stronger the bank's ability to resist risks, the easier it take measures to promote the development of its overseas intermediary business, thereby improving performance.

In formula (6), the control variable of the bank, the non-performing loan ratio of bank, is significantly negative at the significance level of 1%. It shows that the non-performing loan ratio is negatively correlated with the overseas performance of intermediary business of the bank, namely, the higher the non-performing loan ratio, the lower the performance of the overseas intermediary business. This may be because banks face rising credit risks that slow down the intermediary business when the quality of their loans deteriorates.

In formula (2), the macro level of control variables (G20 GDP) is significantly negative at the significance level of 1%. This indicates that the external macroeconomic situation is negatively correlated with staff localization, namely at the economic downturn of the host country, and the increase of the local staff employed by the bank. This may be because when the host country economic development slowdown, the market risk for bank management will rise, in the face of tough economic times, banks tend to recruit more local staff familiar with local market environment.

6. Endogeneity and Robustness Test

6.1 Endogeneity Test

The assumption of Sobel test is that there is no inverse causality between the intermediate variables and the

dependent variables, the independent variables and the dependent variables, and there are no missing variables in the regression. In order to ensure that the localization of employees plays the role of intermediary effect between DOI and overseas performance, it is necessary to test endogeneity of the model.

Walid and Eric (2009) employs the lag phase of performance as a tool variable to explore whether there is a reverse causal relationship between internationalization and performance, namely whether better banks prefer internationalization. In this way, the paper selects the overseas performance of bank's intermediary business in lag phase 1 and 2 as tool variables, to test whether endogenous problems existing in formula (4) and (6) by Davidson-MacKinnon test. The results are shown in Table 5.

Table 5. Davidson-MacKinnon Test Results

	（1）	（2）
F statistics	0.3181	0.5551
P value	0.5761	0.4610

Column (1) in Table 6 reports the results of endogeneity test in formula (4), and the F statistical value was insignificant, accepting the original hypothesis that the IV regression was not significantly different from the original regression. Column (2) reported the results of endogenous test in formula (6), and the F statistical value was not significant, and the original hypothesis was accepted that there was no significant difference between the IV regression and the original regression. This indicates that there is no inverse causal relationship between DOI and the overseas performance of bank's intermediary business, between staff localization and the overseas performance of bank's intermediary business. The indirect effect of DOI on staff localization, thus the overseas performance of the intermediary business is significant.

6.2 Robustness Test

To test the robustness of mediation effect, this paper introduces the portion of overseas institutions' number as proxy variable, to measure DOI, and the intermediary effect was retested according to the above steps. Results are shown in Table 6.The Sobel test results are shown in Table 7. The test results are basically consistent with the previous ones, which further support hypotheses H1a, H1b, H2, H3a and H3b.

Table 6. Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)
	PERF_LX	YG	PERF_LX	PERF_SX	YG	PERF_SX
DOI	0.7324***	1.4495***	0.2734	0.5584***	1.4495***	0.1934
	[0.2485]	[0.0442]	[0.4867]	[0.0824]	[0.0442]	[0.2299]
YG			0.5683			0.2845
			[0.3791]			[0.1720]
LNZZC	-0.0314*	-0.0066***	-0.0307*	-0.0150**	-0.0066***	-0.0139**
	[0.0183]	[0.0024]	[0.0179]	[0.0063]	[0.0024]	[0.0065]
CAR	0.0884	-0.0054	0.0991	0.0941*	-0.0054	0.0989*
	[0.1401]	[0.0237]	[0.1420]	[0.0502]	[0.0237]	[0.0511]
NPLR	0.4883	-0.0029	0.237	-0.1141	-0.0029	-0.1513
	[0.4794]	[0.0536]	[0.4860]	[0.1496]	[0.0536]	[0.1562]
LNGDP	0.1541**	0.0210***	0.1335**	0.0384*	0.0210***	0.0342*
	[0.0672]	[0.0076]	[0.0648]	[0.0199]	[0.0076]	[0.0208]
constant	-1.1995**	-0.1253*	-0.9811*	-0.1876	-0.1253*	-0.1588
	[0.5826]	[0.0709]	[0.5562]	[0.1615]	[0.0709]	[0.1686]

Note. Standard errors are reported in the square brackets. *, **, *** indicate significance level at 10%, 5% and 1%, respectively.

Table 7. Results of Sobel Test

	（1）	（2）
z statistics	1.4975	1.6520
two-tail probability	0.1343	0.0985

7. Conclusion

This paper selects China's four major banks' (BOC, ABC, ICBC and CCB) semi-annual data from 2009 to 2015 as the research sample, attempts to build the panel model from the perspective of organizational reform, by introducing the intermediary variable, staff localization, and the refined measurement of overseas performance, to open the "black box" of bank's performance under the influence of internationalization degree and the

systematically study the relations among the internationalization, staff localization and bank's overseas performance, and finally reveal the conduction path of performance change under the influence of overseas expansion. The results show that DOI has a direct positive effect on the overseas performance of the deposit/loan business, but the intermediary role of staff localization is insignificant. Moreover, the DOI has a direct positive effect on the overseas performance of the intermediary business, and staff localization plays a positive intermediary effect between DOI and the overseas performance of the intermediary business. At the same time, the more internationalized Chinese banks will be more aggressive in promoting staff localization.

There are two deficiencies in this paper due to the limited financial information of overseas institutions published by the bank. Because the intermediate business's revenues of overseas institutions cannot be subdivided into knowledge-intensive, labor-intensive and technology-intensive intermediate business revenue, it is hard to further analyze DOI indirectly influences staff localization through which specific module's overseas performance of intermediary business. This paper simply takes the local staff of the host country as a whole and does not distinguish administrative staff and ordinary business people. It is possible that the local staff of the management team will influence the internationalization performance of the bank from different paths.

For future research, the small and medium-sized joint-stock commercial banks which are in the progress of internationalization can be included in the sample, the comparative analysis of Chinese-funded banks which are in the different stage of internationalization and to study whether there is difference between staff localization's intermediary effect on internationalization and internationalization performance are necessary.

References

Aliber, R. Z. (1984). International banking: a survey. *Journal of Money, Credit and Banking*, *16*(4), 661-678. https://doi.org/10.2307/1992100

Andres, P. D., Vallelado, E. (2008). Corporate governance in banking: The role of the board of directors. *Journal of Banking & Finance*, *32*(12), 2570-2580. https://doi.org/10.1016/j.jbankfin.2008.05.008

Baum J. A. C., & Ingram, P. (1998). Survival-enhancing learning in the Manhattan hotel industry, 1898-1980. *Management Science*, *44*(7), 996-1016. https://doi.org/10.1287/mnsc.44.7.996

Chen, F. (2015). *Impact of non-interest income business in Chinese commercial Banks*. (Doctoral dissertation). Liaoning University, Shenyang, China

Chen, M. H., Wu, J., Bang, N. J., & Wang, R. (2017). Do foreign banks take more risk? Evidence from emerging economies? *Journal of Banking and Finance*, *82,* 20-39. https://doi.org/10.1016/j.jbankfin.2017.05.004

Deng Y. X. (2008). *Research on "customer follow" effect in the internationalization of commercial Banks in China*. (Doctoral dissertation). Huazhong University of Science & Technology, Wuhan, China

Driscoll, J. C., & Kraay, A. (1998). Consistent Covariance Matrix Estimation With Spatially Dependent Panel Data. *Review of Economics and Statistics*, *80*(4), 549-560. https://doi.org/10.1162/003465398557825

Eden, L., & Miller, S. (2004). Distance matters: Liability of foreignness, institutional distance and ownership strategy. In Hitt, M., & Cheng, J. (Eds.). *The evolving theory of the multinational firm. Advances in international management, 16*, 187-221. Amsterdam: Elsevier. https://doi.org/10.1016/S0747-7929(04)16010-1

Feng, S. Q, (2003). An empirical study on the internationalization and financial development of the bank. *International Financial Research*, *12,* 43-47.

Guo, Z. Q. (2008). Internationalization of commercial Banks: challenges and strategies. *Western Finance*, 11, 12-13.

Guo, Z. Y. (2017). Comparison of Error Correction Models and First-Difference Models in CCAR Deposits Modeling, *Global Journal of Management and Business Research*, *17*(3), 13-31. https://doi.org/10.2139/ssrn.3013799

Walid, H., & Eric, S. (2010). Foreign asset risk exposure, DOI, and performance: An analysis of Canadian banks. *Journal of International Business Studies*, *41*(5), 845-860. https://doi.org/10.1057/jibs.2009.86

Huang Y. (2011). *Research on the motivation and effect of foreign Banks into Chinese banking*. (Doctoral dissertation). Southwestern University of Finance & Economics. Chengdu, China

Huang, Y., & Sternquist, B. (2007). Retailers' foreign market entry decisions: An institutional perspective. *International Business Review*, *16,* 613-629. https://doi.org/10.1016/j.ibusrev.2007.06.005

Hymer, S. (1976). *The international operations of national firms: A study of foreign direct investment*. Cambridge, MA: MIT Press.

Jing, L. X. (2011). *The influence factors and the empirical study on the localization of small and medium Korean enterprises in central China*. (Doctoral dissertation). Fudan University. Shanghai, China.

Liang H. Y., Ching Y. P., & Chan K. C. (2013). Enhancing bank performance through branches or representative offices? Evidence from European banks. *International Business Review*, *22*(3), 495-508. https://doi.org/10.1016/j.ibusrev.2012.07.003

Liu, A. L. (2007). *Empirical study on the factors of internationalization of commercial Banks in China*. (Doctoral dissertation). Zhejiang University. Hangzhou, China.

Liu, M. F., Zhang, X. L., & Zhang, C. (2012). China's commercial banking diversification, operating performance and risk correlation research. *International Finance Research*, *8,* 59-69.

Miller, S. R., & Parkhe, A. (2002). Is there a liability of foreignness in global banking? An empirical test of banks' X-efficiency. *Strategic Management Journal*, *23,* 55-75. https://doi.org/10.1002/smj.212

Qi, S. T. (2008). Commercial bank performance, efficiency and market structure-based on Chinese panel data from 1994 to 2005. *International Finance Research*, *3,* 48-56.

Sobel, M. E. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models. *Sociological Methodology*, *13,* 290-312. https://doi.org/10.2307/270723

Sun, W., Wang, Z., & He, B. (2006). The evolution trend of commercial bank performance and its formation mechanism - empirical study on mixed data from 1996 to 2002. *Financial Research*, *10,* 53-63.

Wan, W. P., Yiu, D. W., & Hoskisson, R. E. & Kim, H. (2008). The performance implications of relationship banking during macroeconomic expansion and contraction: a study of Japanese banks' social relationships and overseas expansion. *Journal of International Business Studies*, *39*(3), 406-427. https://doi.org/10.1057/palgrave.jibs.8400364

Wang, Q., Wu, W., & Huang, J. (2012). Cross-regional operation of urban commercial Banks: credit expansion, risk level and bank performance. *Financial Research*, *1*, 141-153.

Wang, T. K., & Feng, S. Q. (2007). The transformation and internationalization of commercial Banks in China. Shanxi Economics Press. Taiyuan, China.

Wei, J., & Zheng, D. S. (2010). Research on localization of human resource management and enterprise performance relationship in hk-funded enterprises. *Science and Technology Management*, *31*(10), 192-199.

Wen, Z. L., Zhang, L., & Hou, J. T. (2004). The mediation effect inspection procedure and its application. *Journal of Psychology*, *36*(5), 614-620.

Xiong, F., Wang, N., & Zhang, H. Y. (2014). The internationalization of large commercial Banks in China and its performance. *Financial BBS*, *7*, 39-44.

Ye, A. C. (2010). Determinants of global integration and localization strategy of multinational companies in China and its impact on performance. (Doctoral dissertation). Fudan University. Shanghai, China.

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Volatility Analysis of Stock Returns for Fifteen Listed Banks in Chittagong Stock Exchange

Md Rokonuzzaman[1], Mohammad Akram Hossen[2]

[1]Department of Statistics, University of Chittagong, Chittagong, Bangladesh

[2]Bangladesh University of Business and Technology, Dhaka, Bangladesh

Correspondence: Md Rokonuzzaman, Department of Statistics, University of Chittagong, Chittagong, Bangladesh.

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Abstract

The aim of the study is to analyze and prediction of return for 15 popular banks in Chittagong Stock Exchange. The economic development of a country depends largely on the effective performance of stock market. In this study, secondary data from the CSE, Bangladesh with a sample period 1st January 2009 to 27th December 2015 for selected 15 banks, listed in Chittagong Stock Exchange. Descriptive statistics, important graphs, statistical tests, fitted dynamic regression models with ARCH effect are used to complete the analysis. It is found that for all banks, the return occurs high with a high risk and risk is low for the companies with small amount of return. The daily log returns for all companies are almost normally distributed. Checking the stationarity of the log returns data getting from all banks in both graphical and statistical unit root method, time series data are found to be stationary. In the dynamic regression model the log return Y_t is considered as dependent variable and the log daily average X_t is considered as independent variable. The average VIF for the returns of all banks are found less than 10, indicate not severity of multicollinearity and ΔY_t , $\Delta^2 Y_t$, ΔX_t , $\Delta^2 X_t$ can be used as the explanatory variables in the model where Δ indicates the difference operator. Lagrange multiplier (LM) test based on the residuals of the regression model is significant for all the banks implies that the data have the conditional heteroscadisticity in the behavior of their residuals. The line diagrams conferred the complete randomness in Parkinson's monthly volatility for every company. The log return of six out of 15 banks have significant ARCH effect with 2 period lags and rest of the banks, the log returns have significant ARCH effect with 1 period lag. The regression coefficients of Y_{t-1}, Y_{t-2} and X_{t-2} have the negative effects on Y_t and the other coefficients have both positive and negative effect. A modified ARDL (2,2) model is proposed and 1-step ahead forecasted model for different banks are recommended.

One can try to estimate the confidence interval for the parameters used in modified model in his/her advanced research. Moreover, the other dynamic models such as GARCH, TGARCH, PARCH, EGARCH model and different dynamic panel data models such as Areonalo bond could be try to predict the data. Moreover, the other multivariate analysis such as canonical correlation analysis, factor analysis, cluster analysis and discriminant analysis can be done for further research on these data.

Keywords: volatility, arch model, parkinson's volatility, stationary, unit root test

1. Introduction

A stock is a certificate that gives the holder part-ownership of a company. In order to raise money, a company releases shares that the public can buy. Each share represents a small percentage of ownership in that company. A stock market, equity market or share market is the aggregation of buyers and seller of stocks or shares of companies. In Bangladesh there are two stock exchanges with automation system of trading shares and securities.

The purpose of a stock exchange is to facilitate the exchange of securities between buyers and sellers, thus providing a marketplace. It is impossible to predict with any certainty how the overall stock market will behave. The stock market can be very volatile, and in a bad day one could see the loss of a significant part of his investment. However, there have always been alternatives such as brokers trying to bring parties together to trade outside the exchange. Stock market is considered to be a barometer of the Economy. The economic development of a country depends largely on the effective performance of stock market. Stock markets play an essential role in growing industries that ultimately affect the economy through transferring available funds from units that have excess funds to those who are suffering from funds deficit (Naik and Padhi 2012).

A stock market crash is often happened for various economic factors, a reason is also due to panic and investing public's loss of confidence. Often, stock market crashes end speculative economic bubbles defined as a sharp dip in share prices of stocks listed on the stock exchanges. There have been famous stock market crashes that have ended in the loss of billions of dollars and wealth destruction on a massive scale. There have been a number of famous stock market crashes like the Wall Street Crash of 1929, the stock market crash of 1973–4, the Black Monday of 1987, the Dot-com bubble of 2000, and the Stock Market Crash of 2008. In Bangladesh there were two stock market crashes i.e., the DSE(DHAKA Stock exchange) crash of 1996,the DSE & CSE crash of 2010.

Bangladesh capital market is one of the smallest in Asia but within the south Asian region, it is the third largest one. It has only two automated stock exchange Namely Dhaka Stock Exchange (DSE), Chittagong stock exchange (CSE). The stock market of Bangladesh has been experiencing uneven flow of investors across years since its inception. The reverse is also found to be true in the context of Bangladesh. In Bangladesh, there are almost 3.50 million stock market investors, but the number of active investors is 0.16 million. However, the number of active investors may increase or decrease depending on stock market performance of the country.

Chittagong Stock Exchange (CSE) opening Bangladesh Government is the second stock exchange of the country which began its journey in 10th October of 1995 from Chittagong City through the cry-out trading system. It is promise to create an effective, efficient and transparent market atmosphere of international standard to save and invest in Bangladesh in order to raise fund and accelerate industrial growth for overall benefit of the economy.

The main objective of this study is to investigate the dynamics of the time varying volatility for the selected 15 renowned banks of CSE 50 index over the sample period. Another objective of this study is to evaluate stock market performance of the Chittagong Stock Exchange. As capital market volatility is effectively depicted with the help of ARCH model with ARDL(p,q) have been performed so as to produce the evidence of time varying volatility which shows clustering, high persistence and predictability and responds symmetrically for positive and negative shocks.

However, the specific objectives of this thesis are to evaluate the performance of selected bank, to build an appropriate volatility model of daily log return for a bank and to forecast or predict stock market return which helps in investment.

2. Literature Review

Numerous financial economists have employed conditional heteroscedasticity models to describe the volatility of the world's developed stock markets. The conditional volatility of stock returns in the U.S. has been examined, most notably by French (1987) and Baillie (1990). Masulis (1995) studies the volatility of the International Stock Exchange of London using generalized ARCH model. Beer (2006) find evidence of asymmetric effects on Shanghai A-share and B-share indices within TGARCH (1,1) model. D.D.Tewari (2013) have studied existence and the nature of the volatility clustering phenomenon in the Johannesburg Stock Exchange (JSE) considering GARCH-type models. Study results revealed that an asymmetric effect of positive and negative shocks on conditional volatility could not be identified. Suliman Zakaria (2012) have studied Stock market volatility in two African exchanges, Khartoum Stock Exchange, KSE (from Sudan) and Cairo and Alexandria Stock Exchange by employing different univariate specifications of the Generalized Autoregressive Conditional Heteroscedasticity model. Zi-Yi (2017) have done a research and used GARCH (p, q) model in order to find the risk-return relationship. They found the negative relationship between risk and return and statistically significant, which indicates that the portfolio theory does not exist in DSE, very contradictory to us. The studies such as, Hassan (2002 & 2004), Ainul (2005), Kader (2005), Mobarek (2008), Uddin (2009) do not support the weak form of efficiency of Bangladesh's Dhaka Stock Exchange market. There have been also a very few studies like; Hassan (2008), Uddin (2008) support the existence of weak form efficiency of Bangladesh stock market. According to the knowledge of the authors a very few number of researchers have done work in order to find the relationship between risk and return over the past decades of DSE using the GARCH model. Chowdhury (2001) have studied the relationship between the predicted volatility of DSE returns and that of selected macroeconomic variables of

Bangladesh economy. They have calculated volatility from errors after using an autoregressive and seasonality adjusted forecasting model. The volatility series derived from such process has some limitations, which have been corrected in Generalized Conditional Auto Regressive Heteroscedasticity (GCARH) models developed by (Bollerslev, 1986). A large number of researcher's used ARCH and GARCH in capturing the dynamic characteristics of stock market return across the countries, such as Islam (2013a), Elsheikh (2011), Engle (1987), Bae (2007), Bucevska (2012), Dima Alberga (2008), Ajab Al Freedi (2012) and many more. Md. Ariful Islam (2014) has studied Stock market volatility comparison between Dhaka stock exchange and Chittagong stock exchange considering Standard deviation, coefficient of Variation, F-test. Study results revealed that stock price at CSE is more volatile than DSE. Even the stock price of leading companies (top 20 and 30 companies of DSE and CSE) also varies from DSE to CSE and the volatility is much high than CSE30 of DSE20.

3. Data and Methodology

In this study, the daily log returns based on the daily total turnover values of 15 renowned banks of CSE 50 index have been analyzed. The required secondary data are collected for the sample period 1st January 2009 to 27th December 2015 from the CSE, Bangladesh. Most financial studies involve returns, instead of prices of assets. Campbell (1997) give two main reasons for using returns. First, for average investors, return of an asset is a complete and scale-free summary of the investment opportunity. Second, return series are easier to handle than price series because the former have more attractive statistical properties. The natural logarithm of the simple gross return of an asset is called the continuously compounded return or log return:

$$ln\, r_t = ln\,(1+R_t) = \ln\frac{P_t}{P_{t-1}} = \ln P_t - \ln P_{t-1};\ r_t = 1+R_t$$

Stationarity is an important issue to fit any model in time series analysis. A popular statistical approach is Augmented Dickey Fuller statistic to test whether the log return lnrt of an asset follows a random walk or a random walk with drift. i.e. the data is stationary or not. This is also the well-known unit-root testing problem by Dickey (1979).

Multicollinearity is a remarkable issue to fit a regression model. Here VIF is used for detecting of multicollinearity among the explanatory variables used in a regression model.

There are several measures of volatility such as intra-day high-low volatility and inter-day close price or open price volatility. Among these measures Parkinson (1980) extreme value estimator based on intra-day high and low price of an asset is more efficient. The Parkinson's volatility is denoted by σ and defined as

$$\sigma = k\sqrt{\Sigma \ln \frac{(H_t/L_t)^2}{n}}$$

Where, H_t= High price of an asset at time t, L_t= Low price of an asset at time t

n= No of days used in calculation, k= 0.601

Here ARCH model is employed for analyzing and prediction of data.

4. Result and Discussions

In this study, 15 popular banks of CSE 50 index are considered for this analysis. The month wise average of that for different banks are presented in the Table 1. In month wise comparison AB bank and EXIM bank have the value of average gross return ranges from1.13 to1.56 *i.e.,* consistent. Average gross return of AL ARAFAH bank's lies between 1.36 and 1.75 for all month except 2.02 in August, 3.22 in November and 2.20 in December, are not stable. The averages of CITY bank are almost consistent which lies between 1.30 and 1.55 except 2.04 in September. DHAKA bank's average gross returns are not consistent having extreme value in January, March, May, October, November. IFIC bank's average value lies between 1.38 and 1.65 except 2.12 in January, 2.36 in June, 2.39 in September, 2.01 in December i.e., inconsistent. The average value of ISLAMI bank are almost stable by ranging from 1.27 to 1.63 without 2.22 in June. NATIONAL bank and NCC bank have the consistent gross return ranging from 1.11 to 1.59 and from 1.18 to 1.38 respectively. ONE bank's averages lies between 1.19 to 1.93 except 2.05 in January i.e., almost stable. PUBALI bank has the average gross return ranges from 1.27 to 1.41 except 3.36 in August, 2.0 in November. The average gross return of SIBL, SOUTHEAST bank, STANDARD bank are ranging from 1.14 to 1.95 i.e., stable in nature. UTTARA bank's average values are almost stable lying between 1.18 and 1.46 with an extreme value 2.17 in December. From the above discussion it

is clear that the average gross returns vary more by month than by year.

Table 1. Descriptive statistics of gross returns of 15 banks index by month

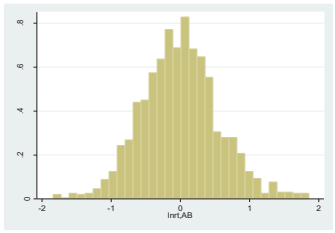
SL	Bank name	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	Ave
1	ABB	1.18	1.13	1.17	1.13	1.24	1.21	1.17	1.13	1.16	1.31	1.21	1.15	1.18
		(0.73)	(0.58)	(0.74)	(0.57)	(1.01)	(0.98)	(0.78)	(0.72)	(0.68)	(1.33)	(0.96)	(0.72)	
2	ARB	1.75	1.43	1.89	1.43	1.67	1.46	1.53	2.02	1.51	1.36	3.22	2.20	1.79
		(2.65)	(1.84)	(4.18)	(1.56)	(3.37)	(1.32)	(2.47)	(4.58)	(2.15)	(1.39)	(16.39)	(6.66)	
3	CTB	1.33	1.30	1.55	1.46	1.52	1.46	1.41	1.43	2.04	1.43	1.39	1.30	1.47
		(1.22)	(1.55)	(1.87)	(1.97)	(2.70)	(1.78)	(1.64)	(1.75)	(9.01)	(1.50)	(1.82)	(1.36)	
4	DHB	2.87	1.47	2.85	1.61	2.67	2.69	1.63	1.90	1.85	2.54	3.51	1.57	2.97
		(13.26)	(1.69)	(30.27)	(2.46)	(13.5)	(9.33)	(2.99)	(3.32)	(3.87)	(20.80)	(21.88)	(1.91)	
5	EXB	1.34	1.13	1.56	1.31	1.24	1.22	1.20	1.25	1.21	1.25	1.16	1.28	1.26
		(2.01)	(0.61)	(2.03)	(1.20)	(0.93)	(0.86)	(0.86)	(1.29)	(0.95)	(1.06)	(0.75)	(0.92)	
6	IFB	2.12	1.40	1.40	1.54	1.45	2.36	1.65	1.65	2.39	1.57	1.38	2.01	1.74
		(4.88)	(1.38)	(1.64)	(1.66)	(1.49)	(7.08)	(3.55)	(3.00)	(6.86)	(2.08)	(1.47)	(4.21)	
7	ISB	1.48	1.33	1.27	1.34	1.39	2.22	1.63	1.45	1.42	1.30	1.57	1.59	1.50
		(3.83)	(1.57)	(0.88)	(1.26)	(1.35)	(9.91)	(5.30)	(2.63)	(1.62)	(1.32)	(2.22)	(3.16)	
8	NLB	1.38	1.15	1.25	1.15	1.16	1.18	1.06	1.59	1.15	1.17	1.11	1.11	1.20
		(2.59)	(0.68)	(1.43)	(0.63)	(0.69)	(0.73)	(0.49)	(5.23)	(0.68)	(0.70)	(0.57)	(0.53)	
9	NCB	1.25	1.18	1.30	1.38	1.22	1.29	1.20	1.33	1.28	1.18	1.31	1.29	1.27
		(0.99)	(0.71)	(1.21)	(1.79)	(0.89)	(1.02)	(0.78)	(1.55)	(1.21)	(0.74)	(1.67)	(1.85)	
10	ONB	2.05	1.41	1.47	1.73	1.92	1.44	1.19	1.93	1.28	1.44	1.39	1.32	1.55
		(9.33)	(1.37)	(1.71)	(4.39)	(5.18)	(1.49)	(0.97)	(6.85)	(1.12)	(1.73)	(1.72)	(1.21)	
11	PBB	1.39	1.27	1.31	1.36	1.38	1.34	1.32	3.36	1.41	1.34	2.00	1.30	1.57
		(1.46)	(1.06)	(1.18)	(1.48)	(1.88)	(1.17)	(1.14)	(20.6)	(1.37)	(1.21)	(4.54)	(1.10)	
12	SJB	1.24	1.27	1.25	1.40	1.18	1.31	2.75	1.37	1.30	2.84	1.30	1.29	1.54
		(1.01)	(1.00)	(0.93)	(1.31)	(0.74)	(1.04)	(17.91)	(1.76)	(1.17)	(18.08)	(1.18)	(1.82)	
13	SEB	1.24	1.95	1.54	1.22	1.28	1.42	1.27	1.40	1.93	1.47	1.36	1.46	1.46
		(0.93)	(7.77)	(2.28)	(1.01)	(0.98)	(1.42)	(1.26)	(2.02)	(5.92)	(2.08)	(2.13)	(2.73)	
14	STB	1.27	1.14	1.55	1.31	1.29	1.40	1.34	1.59	1.24	1.26	1.30	1.36	1.34
		(1.06)	(0.65)	(2.70)	(1.33)	(0.99)	(1.48)	(1.29)	(2.75)	(0.94)	(0.89)	(1.10)	(1.50)	
15	UTB	1.40	1.18	1.53	1.23	1.46	1.42	1.33	1.36	1.36	1.39	1.29	2.17	1.68
		(1.36)	(0.80)	(2.12)	(1.09)	(1.60)	(1.70)	(1.48)	(1.22)	(1.09)	(1.19)	(1.18)	(21.57)	

*Figure within parenthesis indicates the value of standard error(***se***)

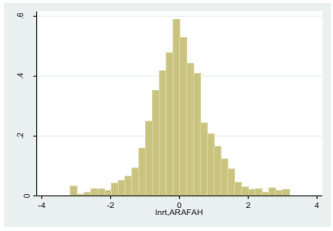
Next section we would like to present the normality test of the dataset.

Normality test

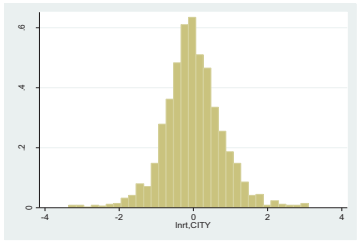
Normality of any data set is a big challenge for fitting any model of a time series data. Since the return data does not show the normality and as well as non stationary so here log return data is considered in this study for analysis. Figure 1 shows the histograms of daily log returns of selected 15 banks. From the all diagrams it is obvious that the daily log returns for all banks are almost normally distributed.



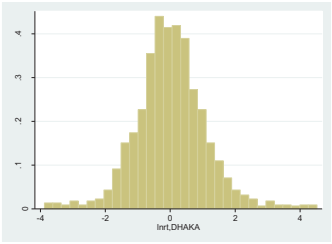
AB bank



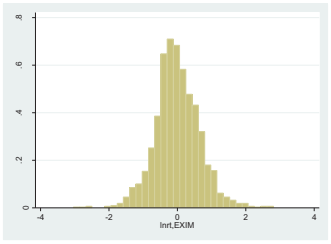
AL ARAFAH bank



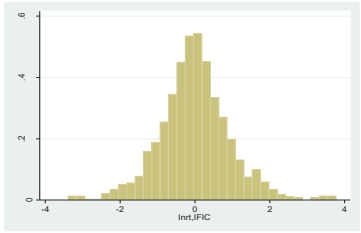
CITY bank



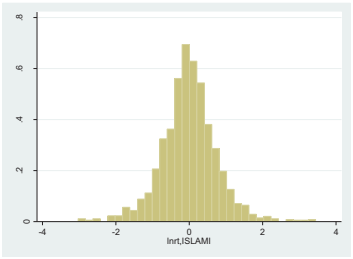
DHAKA bank



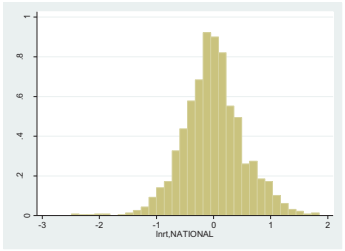
EXIM bank



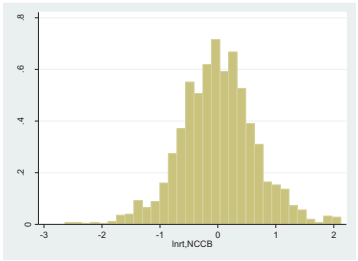
IFIC bank



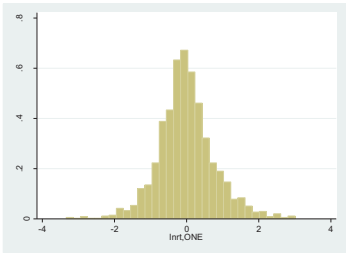
ISLAMI bank



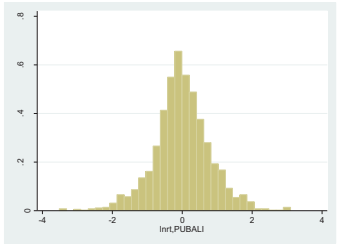
NATIONAL bank



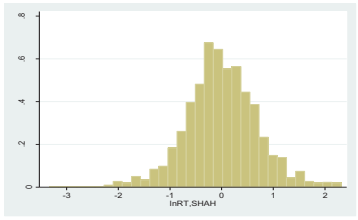
NCC bank



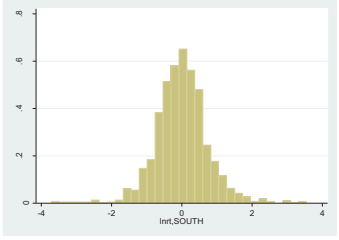
ONE bank



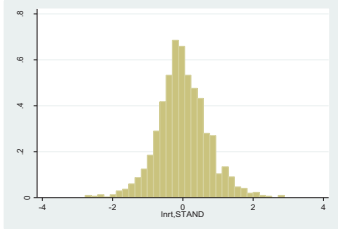
PUBALI bank



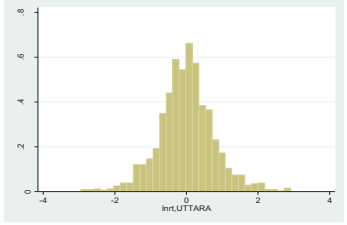
SHAHJALAL bank



SOUTHEAST bank



STANDARD bank



UTTARA bank

Figure 1. The histogram of log return of selected banks in CSE 50 index

For fitting any model of time series data, stationarity is an important issue. For these data set, the stationarity are tested for different companies by using Stata software with graphical and statistical method. In statistical method, ADF unit root test is used to check the stationarity of data set which are described in the Table 2. Significant unit root test statistic indicate the stationarity of data. For graphical method the line diagram of log return for different banks are shown in Figure 2. The line graph of log returns for every bank shows the random variation

around zero, implies log return variable are stationarity and used to predict the return for these banks. From the Figure 2, it is obvious that there are some ups and down in the daily log returns but the Figures confer the stationary *i.e*., the random shocks follow the white noise stationary process. So it can be concluded that the daily log returns of all selected companies are stationary in nature.

Table 2. Augmented Dickey-Fuller test Statistic for Stationarity of log return of selected banks in CSE 50 index

Sl No.	Bank Name	Short Name	Test Statistic	P-value
1.	AB bank	ABB	-12.798	p<0.001
2.	AL ARAFAH bank	ARB	-53.222	p<0.001
3.	CITY bank	CTB	-52.286	p<0.001
4.	DHAKA bank	DHB	-52.226	p<0.001
5.	EXIM bank	EXB	-50.737	p<0.001
6.	IFIC bank	IFB	-54.247	p<0.001
7.	ISLAMI bank	ISB	-55.485	p<0.001
8.	NATIONAL bank	NLB	-50.730	p<0.001
9.	NCC bank	NCB	-49.897	p<0.001
10.	ONE bank	ONB	-53.482	p<0.001
11.	PUBALI bank	PBB	-56.978	p<0.001
12.	SHAHJALAL bank	SJB	-55.418	p<0.001
13.	SOUTHEAST bank	SEB	-51.671	p<0.001
14.	STANDARD bank	STB	-56.499	p<0.001
15.	UTTARA bank	UTB	-54.959	p<0.001

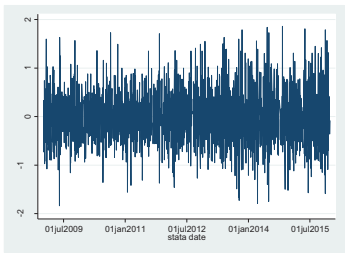
For fitting and estimating any statistical model it is essential to test the multicollinearity among the independent variables. Variance Inflating Factor is an important tool to check the multicollinearity. VIF up to 10 indicates weak multicollinearity and need not to make correction whereas more than 10 need to take a remedial measures. The average VIF for all companies are less than 10, indicate the not severity of multicollinearity and can use these explanatory variables ΔY_t , $\Delta^2 Y_t$, ΔX_t and $\Delta^2 X_t$ in the model. From the Table 3 it is observed that the mean VIF is more than 5.00 for AB bank, CITY bank, IFIC bank, ISLAMI bank, NATIONAL bank, ONE bank, SOUTHEAST bank, STANDARD bank and UTTARA bank.

ARCH Effect

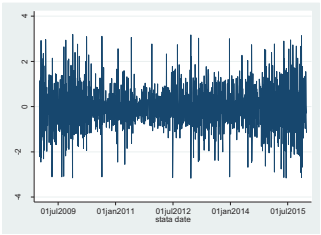
Generally in time series data, after fitting a mean regression model ARCH effect is tested for building a volatility model. The test is based on the residuals of this mean regression model. Lagrange multiplier (LM) test is the common method to test the ARCH effect. Significant LM test statistic indicate the situation of having ARCH effect. Table 4 shows the LM test for the selected banks. From the table it is seen that all the test statistics' are statistically significant. So, it can be concluded that the data getting from all the banks have the conditional heteroscadisticity in the behavior of their residuals. From the above test it is also observed that the test statistic is significant with two period lags for AL ARAFAH bank, DHAKA bank, IFIC bank, ISLAMI bank, NCC bank, SHAHJALAL bank and returns for the rest of banks are significant with one period lag.

Parkinson's Volatility

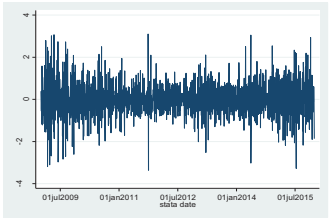
There are several measures of volatility. Among these measures Parkinson's extreme value estimator based on intra-day high and low price of an asset is more efficient. Figure 3 shows the Parkinson's monthly volatility of the selected banks in CSE 50 index. From the line diagrams of different banks, it is observed that there is complete randomness in monthly volatility of every companies. But the volatility is severe in AB bank, AL ARAFAH bank, DHAKA bank, EXIM bank, IFIC bank and NATIONAL bank. From this figure it is observed that AB bank has the maximum volatility 0.15 in May of 2010, EXIM bank has its highest volatility 0.10 in May of 2010, ISLAMI bank has the highest volatility 0.16 in July of 2009 respectively.



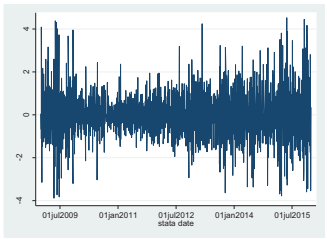
AB bank



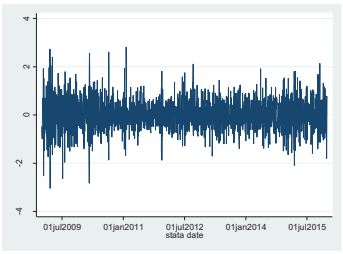
AL ARAFAH bank



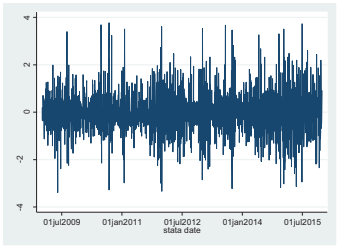
CITY bank



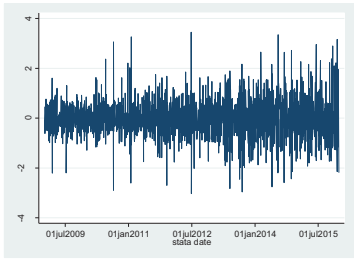
DHAKA bank



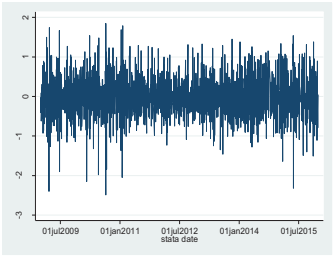
EXIM bank



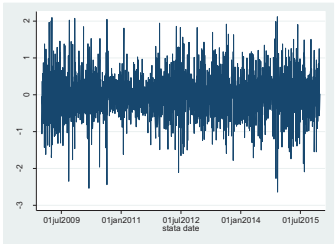
IFIC bank



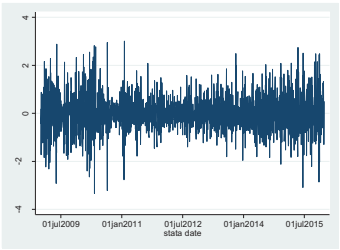
ISLAMI bank



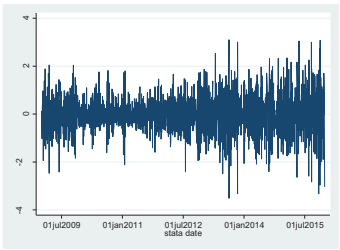
NATIONAL bank



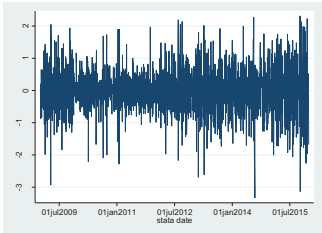
NCC bank



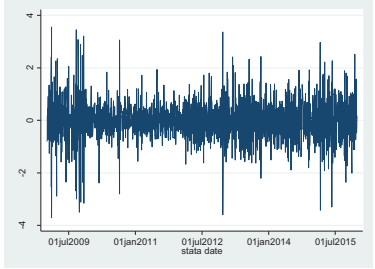
ONE bank



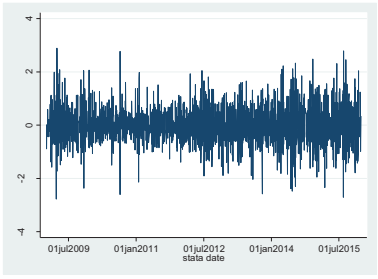
PUBALI bank



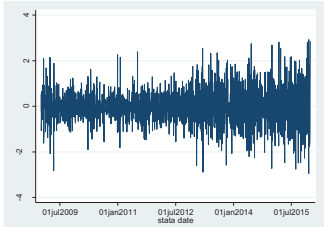
SHAHJALAL bank



SOUTHEAST bank



STANDARD bank



UTTARA bank

Figure 2. The histogram of log return of selected banks in CSE 30 index

Table 3. Variance Inflating Factor (VIF) for regression

SL	**Bank Name**	ΔY_t	$\Delta^2 Y_t$	ΔX_t	$\Delta^2 X_t$	Average VIF
1	AB bank	4.55	4.43	10.61	9.72	7.33
2	AL ARAFAH bank	6.06	6.01	1.94	1.94	3.99
3	CITY bank	5.39	5.35	10.19	8.28	7.30
4	DHAKA bank	5.63	5.61	1.01	5.06	4.33
5	EXIM bank	5.27	5.15	1.75	1.78	3.49
6	IFIC bank	5.28	5.23	8.98	9.08	7.14
7	ISLAMI bank	5.22	5.21	9.07	10.09	7.65
8	NATIONAL bank	5.11	5.10	10.28	10.33	7.71
9	NCC bank	5.12	5.09	1.93	1.98	3.53
10	ONE bank	5.03	5.00	7.13	7.20	6.09
11	PUBALI bank	5.72	5.67	1.97	2.01	3.84
12	SHAHJALAL bank	5.62	5.47	2.00	2.09	3.80
13	SOUTHEAST bank	5.17	5.17	9.21	10.26	7.45
14	STANDARD bank	5.74	5.75	8.28	10.35	8.03
15	UTTARA bank	5.74	5.73	10.99	9.02	7.87

Table 4. Lagrange Multiplier test for ARCH effect

Sl	**Bank Name**	**Chi-Square**	**P-value**
1.	AB bank	16.339	p<0.01
2.	AL ARAFAH bank	27.569	p<0.001
3.	CITY bank	25.469	p<0.001
4.	DHAKA bank	27.447	p<0.001
5.	EXIM bank	106.542	p<0.001
6.	IFIC bank	35.239	p<0.001
7.	ISLAMI bank	13.426	p<0.01
8.	NATIONAL bank	70.543	p<0.001
9.	NCC bank	11.276	p<0.01
10.	ONE bank	34.179	p<0.001
11.	PUBALI bank	29.093	p<0.001
12.	SHAHJALAL bank	10.244	p<0.01
13.	SOUTHEAST bank	73.581	p<0.001
14.	STANDARD bank	46.206	p<0.001
15.	UTTARA bank	15.645	p<0.01

Table 5. Stata output of ARCH family regression for AL ARAFAH bank

```
ARCH family regression
Sample: 06jan2009 - 15dec2015, but with gaps        Number of obs   =       887
Distribution: Gaussian                              Wald chi2(4)    =   9478.11
Log likelihood = -279.1097                          Prob > chi2     =    0.0000
------------------------------------------------------------------------------
             |                 OPG
  lnrtarafah |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  lnrtarafah |
         D1. |   .9849421   .0140592    70.06   0.000     .9573867    1.012498
         D2. |  -.2886264   .0074756   -38.61   0.000    -.3032784   -.2739745
       lndav |
         D1. |   5.119179   .5215053     9.82   0.000     4.097047    6.141311
         D2. |  -2.182813   .2950629    -7.40   0.000    -2.761126   -1.604501
       _cons |  -.0032727   .0105878    -0.31   0.757    -.0240244    .0174789
-------------+----------------------------------------------------------------
ARCH    arch |
         L1. |   .3770992   .0692112     5.45   0.000     .2414478    .5127506
         L2. |   .2038993   .0790582     2.58   0.010      .048948    .3588506
       _cons |   .0519715   .0089159     5.83   0.000     .0344966    .0694463
```

Similarly the dynamic regression model with volatility regression of ARCH effect for others banks are run and the parameters for corresponding banks are shown in Table 6 and Table 7. From the joint estimation of mean model and volatility model for the selected 15 banks, it is observed that 1st difference of both log return and log daily average have the significant positive effect on log daily return but the 2nd difference have the significant opposite effect on the daily log return. Moreover, the positive effects are higher than negative effects in their magnitude. The fitted dynamic models are chosen with minimum AIC and BIC value. However, the above fitted model cannot be used in forecasting due to its complex form having the difference terms of both dependent variable and independent variable as a explanatory variable. So, in the Table 8, the proposed fitted modified

ARDL model and volatility model will be described for forecasting which removes the complexity of the previous fitted model.

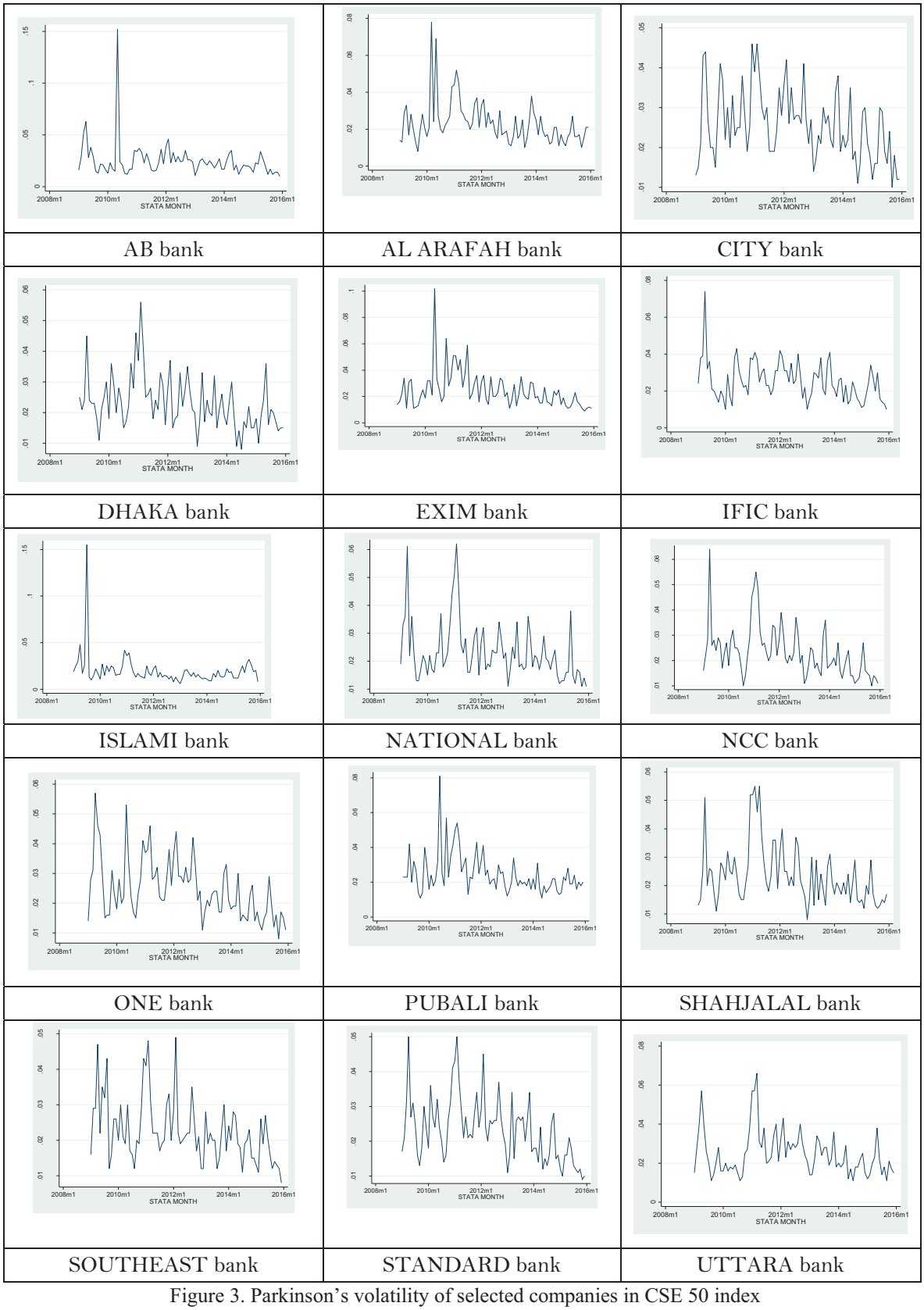


Figure 3. Parkinson's volatility of selected companies in CSE 50 index

Fitted volatility model for different companies are shown in the Table 7. Six out of 15 banks have significant ARCH effect with 2 period lags and rest of the companies have significant ARCH effect with 1 period lag.

Table 6. Summary table of the dynamic model for selected banks

SL	Bank's name	constant	Δy_t	$\Delta^2 y_t$	Δx_t	$\Delta^2 x_t$
1	ABB	-0.01362	1.02999	-0.31824	3.07414	-2.65637
2	ARB	-0.00327	0.98494	-0.28863	5.11918	-2.18281
3	CTB	0.02985	1.02591	-0.31502	3.10114	-2.60071
4	DHB	0.00577	1.01457	-0.30912	5.70067	-3.42112
5	EXB	-0.00166	0.96361	-0.28410	5.24181	-2.54131
6	IFB	-0.00013	1.02400	-0.30655	4.52883	-3.30037
7	ISB	-0.00938	0.99477	-0.29454	1.82262	-1.98810
8	NLB	0.00015	1.00897	-0.30254	2.44069	-2.22615
9	NCB	0.00656	0.99734	-0.29905	4.87396	-2.32871
10	ONB	0.00655	0.98438	-0.29678	2.60703	-2.17144
11	PBB	-0.00521	0.99511	-0.29371	4.01448	-2.41084
12	SJB	-0.00388	0.96795	-0.27849	5.34697	-2.99872
13	SEB	0.00178	0.98689	-0.28783	2.98244	-2.41354
14	STB	-0.00214	0.96840	-0.28437	2.47444	-1.97796
15	UTB	-0.00624	1.01361	-0.30829	1.52853	-1.50736

Table 7. Fitted Volatility model for selected 15 banks listed in CSE

SL	Company name	Fitted Volatility model
1	ABB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.03729} + \underset{(0.001)}{0.20143}\, a_{t-1}^2$
2	ARB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.05197} + \underset{(0.000)}{0.37710}\, a_{t-1}^2 + \underset{(0.010)}{0.20390}\, a_{t-2}^2$
3	CTB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.05253} + \underset{(0.000)}{0.39508}\, a_{t-1}^2$
4	DHB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.067055} + \underset{(0.000)}{0.4298817}\, a_{t-1}^2 + \underset{(0.011)}{0.1778649}\, a_{t-2}^2$
5	EXB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.03592} + \underset{(0.000)}{0.35367}\, a_{t-1}^2$
6	IFB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.05891} + \underset{(0.000)}{0.36384}\, a_{t-1}^2 + \underset{(0.018)}{0.11006}\, a_{t-2}^2$
7	ISB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.03685} + \underset{(0.000)}{0.25881}\, a_{t-1}^2 + \underset{(0.001)}{0.25019}\, a_{t-2}^2$
8	NBB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.02779} + \underset{(0.000)}{0.34681}\, a_{t-1}^2$
9	NCB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.02554} + \underset{(0.000)}{0.32417}\, a_{t-1}^2 + \underset{(0.002)}{0.27001}\, a_{t-1}^2$

SL	Company name	Fitted Volatility model
10	ONB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.05313} + \underset{(0.000)}{0.34861} a_{t-1}^2$
11	PBB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.06276} + \underset{(0.000)}{0.21490} a_{t-1}^2$
12	SJB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.03841} + \underset{(0.000)}{0.19246} a_{t-1}^2 + \underset{(0.005)}{0.16828} a_{t-2}^2$
13	SEB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.04127} + \underset{(0.000)}{0.56809} a_{t-1}^2$
14	STB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.04443} + \underset{(0.000)}{0.35269}\ a_{t-1}^2$
15	UTB	$\hat{\sigma}_t^2 = \underset{(0.000)}{0.06593} + \underset{(0.006)}{0.17356} a_{t-1}^2$

*Figure in parenthesis indicate the significant P value for estimated coefficients

Table 8. Parameters of proposed modified ARDL (2,2) regression model

SL	Company name	Intercept (β_0')	Explanatory variables				
			$\hat{Y}_{t-1}$ (β_1')	$\hat{Y}_{t-2}$ (β_2')	$\hat{X}_t$ (α_0')	$\hat{X}_{t-1}$ (α_1')	$\hat{X}_{t-2}$ (α_2')
1	ABB	-0.04724	-1.36508	-1.10402	1.44927	7.76590	-9.21518
2	ARB	-0.01078	-1.34248	-0.95042	9.66914	-2.48137	-7.18777
3	CTB	0.02976	-0.39471	-0.31410	0.49896	2.09413	-2.59309
4	DHB	0.01960	-1.13455	-1.04944	7.73880	3.87555	-11.6144
5	EXB	-0.00518	-1.23386	-0.88645	8.42641	-0.49671	-7.92970
6	IFB	-0.00045	-1.45539	-1.08579	4.35118	7.33856	-11.6897
7	ISB	-0.03130	-1.35343	-0.98257	-0.55204	7.18435	-6.63230
8	NBB	3.43689	-1.37579	-1.03055	0.73079	6.85223	-7.58302
9	NCB	0.02174	-1.32327	-0.99117	8.43607	-0.71769	-7.71838
10	ONB	0.02097	-1.25095	-0.94998	1.39430	5.55629	-6.95059
11	PBB	-0.30382	-0.10907	-0.59232	1.30503	1.10581	-2.70945
12	SJB	-0.01251	-1.32341	-0.89678	7.56183	2.09462	-9.65646
13	SEB	0.00590	-1.35652	-0.95643	1.89042	6.12957	-8.01999
14	STB	-0.00677	-1.26479	-0.89997	1.57123	4.68853	-6.25976
15	UTB	-0.02118	-1.34724	-1.04616	0.07182	1.48620	-2.99356

After transformation, the modified ARDL(2,2) model obtained from the original ARDL model is proposed in the following form;

$\beta_1, \beta_2, \alpha_1, \alpha_2$ are the coefficients of $\Delta Y_t, \Delta^2 Y_t, \Delta X_t$ *and* $\Delta^2 X_t$ respectively.

And the fitted ARDL(2,2) regression model for AB bank is as following:

$$\hat{Y}_t = \hat{\beta}_0' + \hat{\beta}_1' Y_{t-1} + \hat{\beta}_2' Y_{t-2} + \hat{\alpha}_0' X_t + \hat{\alpha}_1' X_{t-1} + \hat{\alpha}_2' X_{t-2}$$

$$= -0.04724 - 1.36508\ Y_{t-1} - 1.10402 Y_{t-2} + 1.44927 X_t + 7.76590 X_{t-1} - 9.21518 X_{t-2}$$

Where, Y_t *and* X_t represent the log return(lnr$_t$) and log daily average(lndav) of AB bank at trade date *t*. In the above model the estimated parameters are replaced from the Table 8. Similarly the fitted regression model for

others companies can be written from this table. From the estimated parameters it is seen that all the regression coefficients of Y_{t-1}, Y_{t-2} *and* X_{t-2} have the negative effects on Y_t and the other coefficients have both positive and negative effect. Moreover, the log daily average X_t has more positive effect on Y_t for AL ARAFAH bank, EXIM bank, NCC bank, SHAHJALAL bank.

Now the 1- step ahead forecasted model for the log return of AB bank will be;

$$\hat{Y}_{t+1} = \hat{\beta}_0' + \hat{\beta}_1' Y_t + \hat{\beta}_2' Y_{t-1} + \hat{\alpha}_0' X_{t+1} + \hat{\alpha}_1' X_t + \hat{\alpha}_2' X_{t-1}$$

$$or, \hat{Y}_t(1) = -0.04724 - 1.36508\ Y_t - 1.10402\ Y_{t-1} + 1.44927\ X_{t+1} + 7.76590\ X_t - 9.21518\ X_{t-1}$$

And the 1- step ahead forecasted volatility model for AB bank will be;

$$\hat{\sigma}^2_{t+1} = \underset{(0.000)}{0.03729} + \underset{(0.001)}{0.20143} a_t^2$$

Where, X_{t+1} is the log daily average of an asset at trade date (t+1), which is not available. So, this value can be replaced by the average of previous traded 30 days log daily averages.

Suppose, to predict the daily log return of AB bank for 28th December, 2015 where the data are available up to 27th December, 2015 the forecasted model will be;

$$\hat{Y}_{28th\ dec,15} = -0.04724 - 1.36508\ Y_{27th\ dec,15} - 1.10402\ Y_{26\ th\ dec,15} + 1.44927\ X_{28th\ dec,15} + 7.76590\ X_{27th\ dec,15} - 9.21518\ X_{26\ th\ dec,15}$$

= -0.04724-1.36508×(-0.08) – 1.10402×(-0.36) +1.44927×3.01 + 7.76590×3.04 – 9.21518×3.04 = 0.41591

And the predicted gross return is 1.13055

With 1-step ahead volatility

$$\hat{\sigma}^2_{28th\ dec,15} = \underset{(0.000)}{0.03729} + \underset{(0.001)}{0.20143}\ a^2_{27th\ dec,15}$$

Similarly, the forecasting for others banks can be done.

5. Conclusion

In this study, the daily returns based on the daily total turnover values of 15 renowned banks listed in Chittagong Stock Exchange, Bangladesh have been analyzed. Secondary data are collected for the period 1st January 2009 to 27th December 2015 from the CSE. The summary of the out puts are following as:

i. Monthly average return per day for all banks lies between 1.13 and 2.69. The yearly average gross return per is highest for Dhaka Bank and lowest is for AB Bank.

ii. From histogram it is obvious that the daily log returns for all banks are almost normally distributed.

iii. Monthly average gross return per day for all banks are not seems to be stationary but In both graphical method and statistical method, the daily log returns of all selected companies are stationary in nature.

iv. Variance Inflating Factor is an important tool to check the multicollinearity. The average VIF for all companies are less than 10, indicate the not severity of multicollinearity and can use these explanatory variables ΔY_t , $\Delta^2 Y_t$, ΔX_t and $\Delta^2 X_t$ in the model.

v. Generally in time series data, after fitting a mean regression model ARCH effect is tested for building a volatility model. Lagrange multiplier (LM) test is the common method to test the ARCH effect. Significant LM test statistic indicates the situation of having ARCH effect. So, it can be concluded that

the data getting from all the banks have the conditional heteroscadisticity in the behavior of their residuals. The measures of volatility, Parkinson's extreme value estimator based on intra-day high and low price of an asset is more efficient, Parkinson's extreme value estimator also conferred the conditional heteroscadisticity in the behavior of their residuals.

vi. The dynamic regression models with volatility regression of ARCH effect for all banks are run and the parameters for corresponding banks are estimated. It is observed that 1st difference of both log return and log daily average have the significant positive effect on log daily return but the 2nd difference have the significant opposite effect on the daily log return.

vii. The fitted model cannot be used in forecasting due to its complex form having the difference terms of both dependent variable and independent variable as a explanatory variable. So, the proposed fitted modified ARDL model and volatility model will be described for forecasting which removes the complexity of the previous fitted model.

viii. And the fitted proposed ARDL(2,2) regression model for AB bank is as following:

$$\hat{Y}_t = \hat{\beta}_0' + \hat{\beta}_1' Y_{t-1} + \hat{\beta}_2' Y_{t-2} + \hat{\alpha}_0' X_t + \hat{\alpha}_1' X_{t-1} + \hat{\alpha}_2' X_{t-2}$$

$$= -0.04724 - 1.36508\ Y_{t-1} - 1.10402\, Y_{t-2} + 1.44927\, X_t + 7.76590\, X_{t-1} - 9.21518\, X_{t-2}$$

Where, Y_t *and* X_t represent the log return(lnr$_t$) and log daily average(lndav) of AB bank at trade date *t*.

Similarly the fitted regression model for all others banks can be written.

ix. Now the 1- step ahead forecasted model for the log return of AB bank will be;

$$\hat{Y}_{t+1} = \hat{\beta}_0' + \hat{\beta}_1' Y_t + \hat{\beta}_2' Y_{t-1} + \hat{\alpha}_0' X_{t+1} + \hat{\alpha}_1' X_t + \hat{\alpha}_2' X_{t-1}$$

$$or,\ \hat{Y}_t(1) = -0.04724 - 1.36508\ Y_t - 1.10402\, Y_{t-1} + 1.44927\, X_{t+1} + 7.76590\, X_t - 9.21518\, X_{t-1}$$

And the 1- step ahead forecasted volatility model for AB bank will be;

$$\hat{\sigma}^2_{t+1} = \underset{(0.000)}{0.03729} + \underset{(0.001)}{0.20143}\, a_t^2$$

Where, X_{t+1} is the log daily average of an asset at trade date (t+1), which is not available. So, this value can be replaced by the average of previous traded 30 days log daily averages.

Suppose, to predict the daily log return of AB bank for 28th December, 2015 where the data are available up to 27th December, 2015 the forecasted model will be;

$$\hat{Y}_{28th\ dec,15} = -0.04724 - 1.36508\ Y_{27th\ dec,15} - 1.10402\, Y_{26\ th\ dec,15} + 1.44927\, X_{28th\ dec,15} + 7.76590\, X_{27th\ dec,15} - 9.21518\, X_{26\ th\ dec,15}$$

$$= -0.04724 - 1.36508 \times (-0.08) - 1.10402 \times (-0.36) + 1.44927 \times 3.01 + 7.76590 \times 3.04 - 9.21518 \times 3.04$$

$$= 0.41591$$

And the predicted gross return is 1.13055

With 1-step ahead volatility

$$\hat{\sigma}^2_{28th\ dec,15} = \underset{(0.000)}{0.03729} + \underset{(0.001)}{0.20143}\ a^2_{27th\ dec,15}$$

Similarly, the forecasting for others bank can be done.

References

Ainul, I., & Khaled, M. (2005). Tests of weak-form efficiency of the Dhaka stock exchange. *Journal of Business Finance & Accounting, 32*(7-8), 1613-1622. https://doi.org/10.1111/j.0306-686X.2005.00642.x

Ajab Al, F. (2012). A study on the behavior of volatility in Saudi Arabia stock market using symmetric and asymmetric GARCH Models. *Journal of Mathematics and Statistics, 8*(1), 98-106. https://doi.org/10.3844/jmssp.2012.98.106

Bae, J. C. (2007). Why are stock returns and volatility negatively correlated? *Journal of Applied Finance, 14*(1), 41-58. https://doi.org/10.1016/j.jempfin.2006.04.005

Baillie, R. T., & R. P. DeGennaro (1990). Stock Returns and Volatility. *Journal of Financial and Quantitative Analysis, 25,* 203-215. https://doi.org/10.2307/2330824

Beer, Fransisca M., Yu-Tsui, L., & Chi-Shun, C. (2006). Stock Returns and Volatility: Evidence from the Chinese Markets. *Journal of Emerging Markets, 11*(3), 40-49.

Bucevska, V. (2012). An empirical evaluation of GARCH Models in value-at-risk estimation: evidence from the Macedonian stock exchange. *Business Systems Research Journal, 4*(1), 49-64.

Campbell, J. Y., Lo, A. W., & MacKinlay, A. C. (1997). The Econometrics of Financial Markets. Princeton University Press, Princeton, NJ.

Chowdhury, S. S. H., Sadique, M. S., & Rahman, M. A. (2001). Capital market seasonality: The case of Dhaka stock exchange (DSE) returns. *South Asian Journal of Management, 8,* 1-8.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimates for autoregressive time series with a unit root. *Journal of the American Statistical Association, 74,* 427-431.

Dima, A., Haim, S., & Rami, Y. (2008). Estimating stock market volatility using asymmetric GARCH models. *Applied Financial Economics, 18,* 1201-1208. https://doi.org/10.1080/09603100701604225

Elsheikh, A. A. (2011). Modeling stock market volatility using GARCH models evidence from Sudan. *International Journal of Business and Social Science, 2*(23), 114-128.

Engle, R. F., David, M. L., & Russell, P. R. (1987). Estimating time varying risk premia in the term structure: The ARCH-M model. *Econometrica, 55,* 391-407. https://doi.org/10.2307/1913242

French, K. R., G. W. Schwert, & R. E. Stambaugh (1987). Expected Stock Returns and Volatility. *Journal of Financial Economics, 19,* 3-29. https://doi.org/10.1016/0304-405X(87)90026-2

Guo, Z. Y. (2017). GARCH Models with Fat-tailed Distributions and the Hong Kong Stock Market Returns. *International Journal of Business and Management, 12*(9), 28-37. https://doi.org/10.5539/ijbm.v12n9p28

Hassan, M. K., & Chowdhury, S. S. H. (2008). Efficiency of Bangladesh stock market: Evidence from monthly index and individual firm data. *Applied Financial Economics, 18*(9), 749-758. https://doi.org/10.1080/09603100701320178

Islam, M. (2013). Modeling univariate volatility of modeling univariate volatility of evidence from 4-Asian markets. *International Research Journal of Finance and Economics, 163,* 110-117.

Kader, A. A., & Rahman, M. A. (2005). Testing the weak –form efficiency of an emerging market: Evidence from the Dhaka Stock Exchange of Bangladesh. *AIUB Journal, 4*(2).

Masulis, R. W., & V. Ng (1995). Overnight and Daytime Stock-return Dynamics on the London Stock Exchange: The Impacts of 'big bang' and the 1987 Stock-market Crash. *Journal of Business & Economic Statistic, 13*(4), 365-378. https://doi.org/10.2307/1392383

Md. Ariful, I., Md. Rayhan, I., & Mahmudul, H. S. (2014). Stock market volatility: Comparison between Dhaka stock exchange and Chittagong stock exchange. *International Journal of Economics, Finance and Management Sciences, 2*(1), 43-52. https://doi.org/10.11648/j.ijefm.20140201.16

Mobarek, A., Mollah, S. A., & Bhuyan, R. (2008). Market efficiency in emerging stock market: Evidence from Bangladesh. *Journal of Emerging Market Finance, 7*(1), 17-41. https://doi.org/10.1177/097265270700700102

Naik, P. K., & Padhi, P. (2012). The Impact of Macroeconomic Fundamentals on Stock Prices Revisited: Evidence from Indian Data. *Eurasian Journal of Business and Economics, 5*(10), 25-44.

Parkinson, M. (1980). The extreme value method for estimating the variance of the rate of return. *Journal of Business, 53,* 61-65. https://doi.org/10.1086/296071

Suliman, Z. S. A. (2012). Modelling stock market volatility using univariate GARCH models evidence from Sudan and Egypt. *International Journal of Economics and Finance, 4*(8), 161-176.

Uddin, Md. G. S., & Khoda, N. M. A. K. (2009). "An empirical examination of random walkhypothesis for Dhakastock exchange: evidence from pharmaceutical sector of Bangladesh. *International Research Journal of Finance and Economics, 33,* 87-100.

Uddin, Md. G. S., & Shakila, Y. (2008). Random walk model in the Dhaka stock exchange: An empirical evidenceof daily returns. *Journal of Business Administration, IBA, Dhaka University, 35*(1 & 2), 75-86.

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Technology and Government Effort, A Two-headed Animal within the Competitiveness Index of the Travel and Tourism Industry

Jean-Luc Pradel Mathurin Augustin[1], Shu-Yi Liaw[2]

[1]Department of Tropical Agriculture and International Cooperation, National Pingtung University of Science and Technology, Pingtung City, Taiwan

[2]Management College, Computer Centre, National Pingtung University of Science and Technology, Pingtung City, Taiwan

Correspondence: Shu Yi-Liaw, Management College, Computer Centre, National Pingtung University of Science and Technology, 1 Hsueh-Fu Road, Neipu Township, Pingtung, Taiwan.

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Abstract

Technology and social indicators as most important to tourism, give a two-headed feel to the index created to measure the industry's competitiveness. To prove their importance and multi-dimensional relationship, this study uses multivariate analysis techniques to investigate the relationship between them while focusing on three regions. The results indicate 78.1% of shared variance between the constructs alongside significant R^2 effect and canonical correlation score, proving their relationship and importance. Five clusters were identified with the lower two needing improvements in both factors to positively influence tourism competitiveness. The top-performers displayed desirable scores while the middle class needed technology improvements.

Keywords: Canonical correlation analysis, ICT readiness, prioritization of travel and tourism, government effort, TTCI

1. Introduction

The travel and tourism industry continues to grow, being the difference-maker for millions of people by the number of business opportunities and jobs it creates. As reported by the World Economic Forum (WEF), in 2016, the industry contributed up to 10.2% of global GDP, generating 292 million jobs in the process (Crotti & Misrahi, 2017). This reveals the importance of the sector, and is the reason many researchers have been and are continuously interested in measuring its competitiveness (Kozak and Rimmington, 1998, 1999; Haahti and Yavas, 1983; Dwyer *et al.,* 1999, 2000; Gooroochurn & Sugiyarto, 2005). Augustin & Liaw (2017) reported previous studies attempting to measure competitiveness were based either on a demand or a supply point of view, the two specific methods in the literature (Dwyer, Mistilis, Forsyth, & Rao, 2000a, 2000b; Garau, 2006; Kozak & Rimmington, 1999; Papatheodorou, 2002).

Many researchers proposed a number of indicators susceptible to measure competitiveness (Gooroochurn & Sugiyarto, 2005; Crotti & Misrahi, 2015, 2017; Augustin & Liaw, 2017). However, the eight main indicators proposed in the Competitiveness Monitor of Gooroochurn and Sugiyarto (2005) had the ability to encompass the broad definition of tourism competitiveness. The ability to draw comparisons across countries and over time is one of the many advantages of the technique, and the indicators are: price, openness, technology, human tourism, social development, infrastructure, human resources and environment. As they computed the aggregated index, they later found that social and technology indicators could be considered the most important considering they had a higher weight than any other indicator. As widely as it is used, this index received several criticisms from various researchers around the globe mainly for the arbitrary weight attributed to variables (Pulido-Fernández & Rodríguez-Diaz, 2016).

Number of authors in the literature pointed out the importance of technology and the convenience it brings to travelers and tourists or simply to tourism competitiveness (Lee *et al*., 1996; Crouch & Ritchie, 1999; Kozak & Rimmington, 1999; Dwyer & Kim, 2003; Garau, 2006; Pulido-Fernandez & Rodriguez-Diaz, 2016; Augustin & Liaw, 2017). Thus, one might be tempted to see technology as the most important factor to tourism competitiveness. Other authors such as Perles (2004) pointed out various social indicators as determining factors

of competitiveness, although difficult to characterize. These can be seen as the two heads of an animal, but such considerations are supplementary arguments proving that both constructs are of high importance to the competitiveness index itself. Not because an animal has two heads does it go in two different directions; the heads would have to work as one unit and lead the body in one direction.

Despite the identified separate importance of technology and government effort in tourism competitiveness and despite the number of studies focusing on travel and tourism competitiveness, the association between the two has not been clearly investigated. However, the acceptance in the literature that both constructs are of great importance raises questions as to what kind of relationship exists between the two constructs.

It is true that researchers would normally expect these constructs to be correlated, however the present study addresses this gap by exploring and providing statistical and scientific evidence of the relationship between technology (represented by *ICT Readiness* within the TTCI), and government efforts to help the tourism industry whether it be by promotion efforts, creating their brand or by making specific decisions facilitating the development and competitiveness of the industry (represented by *Prioritization of Travel and Tourism* in the TTCI). Taking into account the multi-faceted nature of both constructs as defined within the TTCI is key to the outcomes of the present study, and this has directed towards canonical correlation analysis (CCA) which will be used to yield the results. The research question of interest is whether the set of technology variables and the set of government effort variables are related to each other and in which ways. If it is found that the two are related, the magnitude of the existing relationship will be investigated in order to deduct how the variables impact each other. This will help draw useful recommendations related to the groups of countries pertaining to the sample under study so as to figure out how to approach the relationship of the two constructs within their own economy taking into account the nature of the existing relationship.

The present study aims at exploring and understanding how technology and government effort, two constructs important to travel and tourism competitiveness, relate to each other using the Canonical Correlation Analysis method. In the literature, previous studies have explored the separate importance of each concept; this study will allow to mirror their importance to tourism competitiveness taken as correlated pieces of a whole framework translated into the competitiveness index. Therefore, this paper will take into account the multi-faceted nature of each construct in the process of exploring their relationship. Although not a primary objective of this paper, a classification of the countries pertaining to the sample under study will be made through the results of a cluster analysis based on the two constructs, allowing for more in depth suggestions. The specific objectives of this research are to:

i. determine whether the sets of variables of the technology and social indicator are related to each other
ii. explore the magnitude of the relationship that may exist between the sets of variables of the two indicators
iii. explain the nature of the relationship that exists between the sets of variables by measuring the relative contribution of each variable to the canonical functions that are extracted.

The present study would therefore suggest how crucial and vital it is for tourist destinations to pay a close attention to the existing relationship between the two constructs considering it might yield numerous benefits to the industry or their national economy. Managers and decision makers could draw conclusion from their country positioning in the cluster analysis and think of ways to improve their tourism industry.

2. The Tourist Destination, a Competitiveness Approach

In recent years, the rapid development of tourism due to numerous factors such as technology development and its integration into development plans of several national economies has drawn the attention of researchers around the globe. Let alone defining the tourist destination from a competitiveness standpoint was necessary to better understand how tourism impacts other industries, but it was first and foremost important to define and understand how can a country or territory be considered competitive as one talks about tourism. As countries are eager to increase their market share of travel and tourism, the concept "tourism competitiveness" arises and gains importance for governments and policy makers.

Buhalis (2000) considered destination as a number of tourism products, services and experiences designed to provide consumers with an integrated experience (Khin et al., 2014). He further mentioned that the amalgam of tourism products and services offered to tourists are consumed under the brand name of the destination. Tanja et al. (2011) followed the definition of Ritchie & Crouch (2003) where destination competitiveness is seen as the ability of a country to create additional values and, therefore, increase national wealth by managing assets and processes, attractiveness, aggressiveness and proximity and by integrating these relationships within an

economic and social model that takes into account a destination's natural capital and its preservation for future generations. The OECD recently proposed its own definition of tourism competitiveness for a destination and it is seen as the ability of the place to optimise its attractiveness for residents and non-residents, to deliver quality innovative and attractive tourism services to consumers and to gain market shares on the domestic and global market places, while ensuring that the available resources supporting tourism are used efficiently and in a sustainable way (Dupeyras & MacCallum, 2013).

Competitiveness is a concept that is considered complex, and supplying an exact and accurate definition for it has always been problematic, let alone measuring it. It goes the same about tourism competitiveness. Measuring tourism competitiveness has been a concern for countless researchers and this explains why there are various proposed models in the literature aiming at its measurement. Gooroochurn and Sugiyarto (2005) reported that the identification of the elements of competitiveness is contentious given the conceptual problems embodied in its definition as it is a relative and multidimentional concept (Scott & Lodge, 1985).

There is a large number of studies focusing on approaches to measure competitiveness in tourism (Crouch & Ritchie, 1999, 2003; Dwyer et al., 2000a, 2000b; Dwyer & Kim, 2003; Haahti & Yavas, 1983; Kozak & Rimmington, 1998, 1999). But, some researchers believed that there is not one approach to measuring destination competitiveness suitable to all countries and no single set of indicators could be applied to all destinations at all times (Eright & Newton, 2004, 2005; Gomezelj & Mihalic, 2008; Khin et al., 2014).

2.1 The Travel and Tourism Competitiveness Index (TTCI)

TTCI is the main focus of the Travel and Tourism Competitiveness Report (TTCR) which covers a large number of countries in each edition. This report, produced on a 2-year basis, analyses the performances of numerous economies through the TTCI by revealing important insights about strengths and weaknesses (areas that would require special attention for development) of each analyzed country in order to enhance the competitiveness of the sector. The index unveils the areas where improvements are needed through the analysis and comparison of countries performances, providing solid grounds for policy and business decisions (Augustin & Liaw, 2017; Crotti & Misrahi, 2017).

The index originated from an innovative methodology that was presented for measuring and monitor tourism competitiveness using a wide range of relevant individual indicators grouped into eight main indicators able to encompass the broad definition of tourism competitiveness: price, openness, technology, infrastructure, human, tourism, social development, environment and human resources (Gooroochurn & Sugiyarto, 2005). This methodology was later replicated and adapted by the WEF in 2007 with the production of the TTCR.

The 2015 and 2017 version of the TTCR featured the new TTCI's framework which is a construct of 4 sub-indexes, 14 pillars and 90 individual indicators, all distributed among the pillars (Augustin & Liaw, 2017; Crotti & Misrahi, 2015, 2017). The subindexes and pillars are arranged in the following order: Enabling Environment (*business environment, safety and security, health and hygiene, human resources and labor market, ICT readiness*), Travel and Tourism Policy and Enabling Conditions (*prioritization of travel and tourism, international openness, price competitiveness, environmental sustainability*), Infrastructure (*air transport infrastructure, ground and port infrastructure, tourist service infrastructure*) and Natural and Cultural Resources (*natural resources, cultural resources and business travel*) (Crotti & Misrahi, 2015, 2017). The present study is directed towards two specific pillars, namely *ICT readiness* and *prioritization of travel and tourism*. Technology and social indicators were the two most important factors in Gooroochurn and Sugiyarto's competitiveness monitor considering they presented the highest weights (2005). The weighting procedure is also one of the main criticism of the index because it is deemed arbitrary (Augustin & Liaw, 2017).

2.2 The ICT Readiness Indicator

The role technology has played in the travel and tourism industry is extensively discussed in the literature. One of the main changes the development of information and communication technologies brought by is the radical shift in consumer behavior. Consumers had very little access to information in the past, and travel planning for example was not as easy as it is nowadays. In today's day and age, the consumer has access to an important amount of information with just a few clicks on a browser (Chung & Koo, 2015). The internet's appearance is therefore among the major technology developments that brought significant changes in the structure of the tourism industry considering the amount of information available online consumers can access at any given time (Aramendia-Muneta & Ollo-Lopez, 2013). Buhalis & Law (2008) reported that the real effects of ICTs that we are experiencing since the year 2000 are the results of the emphasis on technology witnessed over the previous two decades, making room for the emergence of new businesses, services and tools thus making it easier for all stakeholders worldwide to interact. Many researchers believe that ICTs play a pivotal and major role in tourism

competitiveness (Aramendia-Muneta & Ollo-Lopez, 2013; Bojnec & Kribel, 2004; Buhalis & Kaldis, 2008; Buhalis & O'Connor, 2005), but it is hardly an unanimous perception given some doubted that ICTs really impact tourism competitiveness (Mihalic, 2007) or even doubted the existence of a relationship between the adoption of ICTs and tourism competitiveness' improvements (Dos Santos et al., 1993).

With the apparition of the internet came the extensive use of social media platforms. Is considered social media all internet-based applications carrying consumer-generated content created by consumers from their own relevant experience and shared or stored online for easy access by other consumers (Chung & Koo, 2015; Xiang & Gretzel, 2010). Social media provides a platform where consumers can interact and search for services, share ideas, thoughts, experiences, perspectives, information (Chan & Guillet, 2011; Chung & Koo, 2015; Sigala et al., 2012). Before the use of social media, tourists had limited access to information through travel magazines, newspapers and books which have been replaced in recent years by internet websites, blogs or simply posts and/or comments from other consumers giving insights or recommendations (Chung & Koo, 2015).

In the TTCR, the technology indicator, *ICT Readiness*, is a pillar of eight indictors: ICT use for biz-to-biz transactions [ICT1], ICT use for biz-to-consumer transactions [ICT2], internet users (% pop.) [ICT3], fixed-broadband internet subscriptions [ICT4] mobile-cellular telephone subscriptions (/100 pop.) [ICT5], mobile broadband subscriptions (/100 pop.) [ICT6], mobile network coverage (% pop.) [ICT7] and quality of electricity supply [ICT8] (Crotti & Misrahi, 2015, 2017).

2.3 The Social Indicator

Prioritization of Travel and Tourism draws the attention on the role of government in tourism and the implication of government in tourism planning and development is a topic that has drawn interest of the scientific community for as long as one can remember considering that it is well documented in the literature that local governments are the most important authorities in establishing tourism development policies (Bouquet & Winter, 1987; Madrigal, 1995; Pearce, 1989). However, Bramwell (2011) insisted on the importance of a broad social theory such as "political economy" to better understand governments' role in tourism development. Governments are considered the key players in tourism development and planning (Wang & Bramwell, 2012) as much of the responsibility to manage and develop tourism is on local governments (Elliott, 1997; Nunkoo, 2015; Ruhanen, 2013). Considering the proximity to various aspects of tourism and the well-oriented knowledge of communities entitled to local governments, their constant involvement in tourism seems justified (Aronsson, 2000). Tourism policy decisions are of the domain of governments and, as a result, they are more often than not held accountable for such (Bramwell, 2011). The governments are expected to create tourism policies determining the level of benefits and costs of tourism for local communities (Citrin, 1974).

Elliott (1997) reported that the implementation of tourism policy essentially depends on the broader political, economic and social environment. But, we need to understand that policy implementation is the process where policy ideas and plans are translated into practice (Dredge & Jenkins, 2007). The different perspectives of researchers who studied policy implementation suggested three approaches in identifying the influence of diverse variables in the process: the top-down, the bottom-up and the synthesis approach. The latter originated from identified weaknesses of the first two. As suggested by number of researchers through the guidance of the synthesis approach, four factors are identified: the macro-environment, the institutional arrangements, inter-organizational relations & co-ordination and the interest groups. Wang & Ap (2013) highlighted that the macro-environment (which is the economic and social environment) influences the roles that government would take in tourism development.

The social indicator represented by the pillar *Prioritization of Travel and Tourism* in the TTCI has the following individual indicators: government prioritization of travel and tourism industry [P1], travel and tourism government expenditure (% government budget) [P2], effectiveness of marketing and branding to attract tourists [P3], comprehensiveness of annual travel and tourism data (0-120 best) [P4], timeliness of providing monthly/quarterly travel and tourism data (0-21 best) [P5] and country brand strategy rating (1-10 best) [P6].

3. Data and Methodology

This section includes the data source and introduces the methods that were used in the present study.

3.1 Data

The data used here are taken from the TTCR featuring the TTCI. Two pillars, namely *ICT Readiness* (technology component with eight individual indicators) and *Prioritization of Travel and Tourism* (social component with six indicators) are at the core of this study in regards to their importance to travel and tourism. Three regions were chosen: the Asia-Pacific considered as the second largest tourism market and most improved region in terms of

travel and tourism by the World Economic Forum given their performance in the last two reports (2015 and 2017), the Americas being the second most improved region and Europe & Eurasia, the region with the largest tourism market and the strongest overall performance.

3.2 Methods

At first, simple relationships between the variables are explored using bivariate correlations. This allows to attest whether there is a certain association between the two constructs and how strong is the relationship between them. However, this offers no indication on the causal direction of a relationship, if one exists; which explains the second step where a canonical correlation analysis is performed to explore the strength and nature of the association between technology and government efforts within the index. For the analyses, SPSS 22 and STATISTICA 13 were used to generate the results.

The use of canonical correlation analysis is justified since it provides a statistical analysis where each subject is measured on two sets of variables and there is a focus on knowing how the two sets relate to each other. In canonical correlation, there are several variables on both sides of the equation and the analysis combines the sets of variables to produce, for each side, a predicted value with the highest correlation with the predicted value on the other side. Fox & Hammond (2017), in a study of psychopathy and impulsivity, reported the combination of variables on each side can be thought of as a dimension that relates the variables on one side to the variables on the other side (Tabachnick & Fidell, 1996). Edwards & Bagozzi (2000) studied the nature and direction between constructs and measures; they concluded that for direct formative models such as the one here, canonical correlation analysis is suitable because it uses observed measures to creates weighed linear composites serving as conceptual variables. As technology and government efforts are normally multivariate, an analytic approach allowing for multiple independent variables seemed more suitable for the study, and therefore was adopted. The technique is well explained in Sherry & Henson's research (2005).

In order to draw useful conclusions, a cluster analysis was then conducted based on the two constructs to provide more oriented and informed recommendations for each group of countries.

4. Results and Discussion

This section presents the results of the analyses conducted which includes a simple bivariate correlation study as well as a canonical correlation analysis to identify how the two sets of variables relate to each other within the TTCI, namely technology and government efforts supporting the tourism industry.

4.1 Bivariate Correlation Results

The simple relationship between government effort and technology within the TTCI was investigated using Pearson's product-moment coefficient and it proved that, based on the dataset used, there is a moderate significant relationship between them ($r = 0.439$, $p < 0.01$). Considering these two pillars are part of the framework that ultimately leads to the index, it is useful to investigate at once the strength of a linear association between them and the index, if any. The reliability analysis will be performed as well to make sure of the reliability of the measurements.

Table 1. Correlation between Technology and Government effort

Variable	Technology	Government Effort	TTCI
Technology	1		
Government Effort	0.439**	1	
TTCI	0.774**	0.537**	1

***correlations significant at p < 0.01 level (2 tailed)*

It is observed in Table 1 that, for the index itself, there is a strong and significant positive linear association with technology whereas there is a moderate significant positive linear association with government efforts. This supports the findings of Augustin & Liaw (2017) in their consistency analysis of the competitiveness index in the Asia-Pacific region where they concluded that the index is strongly correlated to its technology component whereas it is moderately associated to the government effort component.

Taken independently, each set yielded the reliability results that follow. The set of technology indicators proved to have a high reliability of 0.91 (standardized value) with a strong positive correlation between items while the set of government efforts indicators has a reliability of 0.7 (standardized value) with a moderate positive linear correlation between items. The overall reliability equaled 0.88 on standardized value. These results suggest that the reliability for both sets of items is good enough considering Tavakol and Dennick (2011) mentioned that reliability is expressed as a number between 0 and 1 while Leontitis & Pagge (2007) stated that there is a good level on consistency when reliability is closer to 1.

4.2 Canonical Correlation Analysis' Results

A canonical correlation analysis was conducted using the eight technology indicator's variables as predictors of the six government effort's variables to evaluate the multivariate shared relationship between the two variable sets. The analysis yielded only three statistically significant functions amongst the six functions removed with squared canonical correlations of 0.495, 0.309 and 0.185 for each successive significant function. Collectively, the model across all functions was statistically significant using the Wilks's $\lambda = 0.220$ criterion, $F(48, 373.09) = 2.804$, $p < 0.001$. Because Wilks's λ represents the variance unexplained by the model, $1-\lambda$ yields the full model effect size in an r^2 metric. Thus, for the set of three canonical functions, the r^2 type effect was 0.781, which indicates that the full model explained a substantial portion, about 78% of the variance shared between the variable sets.

Table 2. Canonical correlation between government effort and technology

Function	Eigenvalue	%	Cum. %	Canonical R	Sq. Corr	Wilks's lambda
1	0.979	50.7	50.7	0.703	0.495	0.220**
2	0.447	23.2	27.9	0.556	0.309	0.435**
3	0.226	11.7	85.6	0.430	0.185	0.629 *

*** p < 0.001 and * p < 0.05*

The dimension reduction analysis eases the path to test the arrangement of functions for statistical significance. As noted in Table 2, the first three functions were statistically significant ($p < 0.001$) although at a different significance level in the case of the third function ($p < 0.05$). Given the R_c^2 for each statistically significant function, they explained 49.5%, 30.9% and 18.5% of shared variance respectively. The last three (non statistically significant) functions only explained 14.6%, 8.6% and 1.2% respectively of the remaining variance after the extraction of prior statistically significant functions (see Dimension Reduction Analysis in Appendix).

Table 3 presents the standardized canonical function coefficients and structure coefficients for the statistically significant functions, as well as the squared structure coefficients and the communalities (h^2) for each variable. As reported by Fox & Hammond (2017), it is important that these functions manifest a clear and unambiguous structure because of the residual nature of the variance that they are based upon.

Table 3. Canonical Solution for Functions 1 to 3

Variable	Function 1			Function 2			Function 3			h^2 (%)
	Coef.	r_s	r_s^2(%)	Coef.	r_s	r_s^2(%)	Coef.	r_s	r_s^2(%)	
ICT1	1.330	0.965	93.06	1.591	-0.170	2.88	0.804	0.048	0.23	96.18
ICT2	-0.459	0.764	58.39	-1.896	-0.542	29.43	-0.115	0.085	0.72	88.54
ICT3	0.010	0.631	39.83	-0.874	-0.414	17.14	-0.309	-0.063	0.40	57.36
ICT4	-0.178	0.666	44.35	0.353	-0.327	10.69	1.091	0.084	0.70	55.74
ICT5	0.011	0.292	8.54	0.086	-0.089	0.79	0.167	0.019	0.04	9.37
ICT6	-0.020	0.641	41.11	0.570	-0.093	0.86	-0.538	-0.139	1.94	43.91
ICT7	-0.095	0.330	10.90	-0.031	-0.028	0.08	-0.757	-0.710	50.37	61.35
ICT8	0.271	0.815	66.42	-0.183	-0.299	8.91	-0.826	-0.296	8.75	84.09
R_c^2			49.50			30.90			18.50	
P1	-0.372	0.726	52.66	1.294	0.538	28.99	0.104	-0.194	3.77	85.42
P2	-0.115	0.170	2.88	0.350	0.539	29.08	0.161	0.078	0.61	32.57
P3	1.068	0.900	80.96	-0.999	0.231	5.34	-0.677	-0.272	7.42	93.72
P4	-0.016	0.222	4.92	-0.551	-0.514	26.41	-0.273	-0.197	3.88	35.22
P5	0.305	0.631	39.82	0.172	0.187	3.51	0.184	-0.055	0.30	43.63
P6	0.294	0.475	22.52	-0.180	-0.170	2.87	0.950	0.820	67.28	92.68

Note. Structure coefficients (r_s) greater than |0.45| are underlined. Communality coefficients (h^2) greater than 45% are underlined. Coef = standardized canonical function coefficient; r_s = structure coefficient; r_s^2 = squared structure coefficient; h^2 = communality coefficient.

Looking at Function 1 coefficients, the first two variables ICT1 (ICT use for biz-to-biz transactions), ICT2 (ICT use for biz-to-consumer transactions) and ICT8 (Quality of electricity supply) were primarily relevant ($r_s > 0.7$). This conclusion however was not supported by the squared structure coefficients considering only ICT1 and ICT8 had relatively high squared structure coefficients. Furthermore, these three variables (ICT1, ICT2 and ICT8) are all positive, indicating that they are all positively related. The last column of the table lists the communality coefficients which are simply the sum of the r_s^2. Sherry and Henson (2005) commented that the communalities can be viewed as an indication of how useful the variables were to the solution. We notice that primary relevant variables to the function were ICT1, ICT8 and then ICT2. This was supported by the squared structure coefficients which indicated the amount of variance the observed variable can contribute to the synthetic variable.

The other side of the equation in Function 1 informs us that P3 (Effectiveness of marketing and branding to attract tourists) and P1 (Government prioritization of Travel and Tourism) were the primary contributors to the synthetic variable. Due to the fact that both variables of government effort are positive, they are positively related to all contributors from technology, all of them being positive as well.

Given that these results involve ICT use for biz-to-biz transactions (P1), quality of electricity supply (P8) and ICT use for biz-to-consumer transactions (P2) in the technology side of the function as well as Effectiveness of marketing and branding to attract tourist (P3) and Government prioritization of travel and tourism (P1) it makes sense to label this function as "Quality ICT towards Tourism branding".

Moving to Function 2, the coefficients in Table 3 suggest that the only technology variable of relevance is ICT2 (ICT use for biz-to-consumer transactions) although at very moderate level. As for government effort variables, P1 (Government prioritization of travel and tourism), P2 (Travel and tourism government expenditures) and P4 (Comprehensiveness of annual T&T data) were the dominant variables, at moderate level as well. These variables were inversely related. Looking at the structure coefficients for the entire Function 2, ICT2 was negatively related to P1 and P2 while positively related to P4. Considering the dominant variables on both sides of the Function, it seems indicative of the focus on how the government makes tourism one of its priorities; therefore the function can be labeled "Tourism, a government priority".

In Function 3, there is only one dominant technology variable and only one dominant government effort variable that contributed to the function, namely ICT7 (Mobile Network Coverage) and P6 (Country brand strategy rating). A look at the structure coefficients for the entire function shows that ICT7 and P6 are negatively related. Mobile network services are mostly private; if the government runs interference, it might drive the quality of services down, which would negatively affect ratings on the country brand strategy. Therefore, we label this function "Technology away from Government".

4.3 Redundancy Analysis

As explained by Hair et al. (2010), the redundancy index was proposed as a measure of shared variance to overcome bias, misinterpretation and uncertainty that might exist with the use of squared canonical correlations, since they also provide an estimate of the shared variance between canonical variates. The redundancy index provides a summary measure of the ability of a set of variables to explain variation in the other set of variables. In the present case, the redundancy index helps identifying how much of technology's variance is given by the government effort and vice versa.

Table 4. Analysis Summary

	Technology (%)		Government Effort (%)	
Variance Extracted	85.08		100	
Total Redundancy	28.84		27.43	
Canonical Function	Variance Extracted (%)		Redundancy (%)	
	ICT	Gov. Eff.	ICT	Gov. Eff.
1	45.33	33.96	22,42	16.8
2	8.85	16.03	2.73	4.95
3	7.89	13.88	1.46	2.56

Table 4 displays the total redundancy taking into account the six pairs identified, and the variance given by the other set is almost the same, though slightly higher in the case of technology which is given 28.84% variance by government efforts, whereas it gives 27.43% variance to the government efforts. Further results show the redundancy index of the first root, and it turns out that 22.42% variance of technology is given by the efforts of the government in tourism promotion whereas government effort is given 16.79% variance by the technology set of variables. In the case of function 2 and 3, the redundancy index is low and varies between 1 and 5 %.

The relationship between technology and government efforts in support of tourism is presented in the following figure where, based on the first canonical function, we identify the trend created by the association of the two constructs. However, the analysis conducted earlier is indicative that there is more than just a simple linear relationship between them.

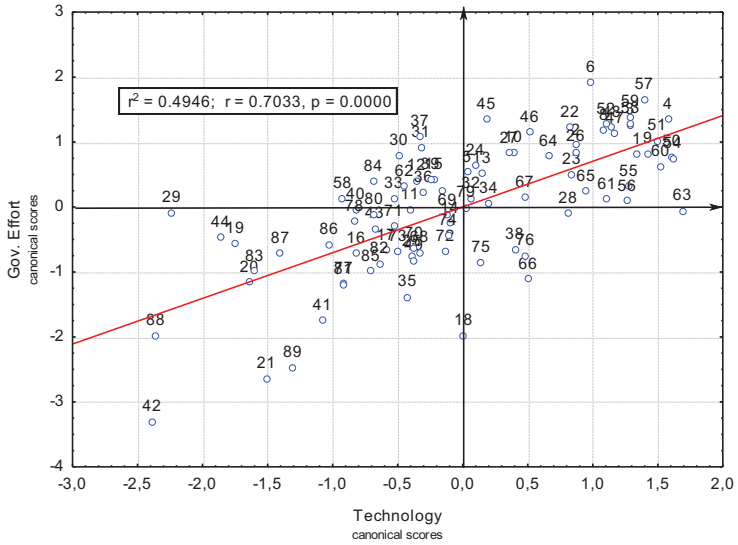


Figure 1. Canonical correlation of Technology and Government Effort

(see Appendix for countries number and name)

The previous figure, rather than focusing on countries positioning, illustrates the canonical correlation between technology and government efforts through the canonical scores of the first function for all 89 countries under analysis, considering the first function is the most important of all statistically significant functions extracted from the model. It clearly displays the existence of the relationship between both constructs.

4.4 Cluster Analysis Results - TTCI comparison Among Groups

For well-informed and oriented suggestions, a cluster analysis was conducted in order to group the countries in homogenous classes based on the two variables being studied, technology and government effort in support to the tourism industry. The countries were classified in five groups via k-means clustering method based on the two factors being discussed considering that is the most appropriate number of groups that fits the study objectives.

Table 5. An Analysis of Tourism Competitiveness

Cluster (Members)	I (n=20)	II (n=28)	III (n=9)	IV (n=10)	V (n=22)
Coordinates of Cluster center					
Technology (x)	3.82	4.99	5.21	3.65	6.09
Gov. Efforts (y)	4.86	4.38	5.67	3.62	5.17
TTCI	3.65	4.09	4.27	3.30	4.79
Characteristics of Clusters	2.60≤x≤4.50 3.30≤y≤5.80	4.20≤x≤5.70 3.60≤y≤5.00	4.80≤x≤5.50 5.20≤y≤6.20	2.50<≤x≤4.30 3.20≤y≤4.00	5.60≤x≤6.50 4.40≤y≤6.00

As previously shown in Table 5, the countries have been clustered into five groups, based on two conditions met at the same time. For example, in the first group, the technology level of the countries varies between 2.60 and 4.50 while their government's effort in tourism varies between 3.30 and 5.80. For this group, their average tourism competitiveness is 3.65. Further evidence of the grouping is presented in the next figure that shows the plot of means for each cluster.

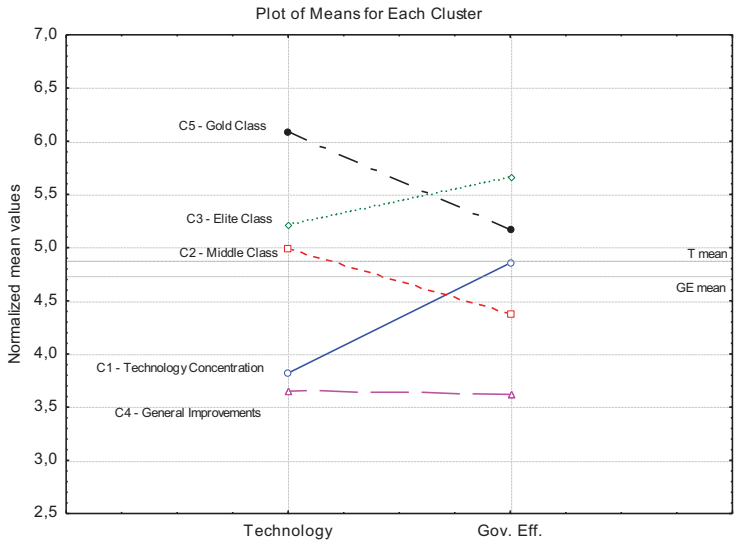


Figure 2. Means of each group constituted (see Appendix for members of each cluster)

In figure 2, each group is given a name based on the mean of each variable. Note that each country can identify the cluster it belongs to by visiting the Appendix. Two top performers were identified, cluster 3 named "Elite class" and cluster 5 named "Gold class". The Gold class is a technology oriented group considering that it outperformed any other cluster when it comes to technology; the technology index of the countries vary between 5.60 and 6.50 while they are not the top performers in government efforts. This group included European and Asia-Pacific country, with only two countries from the Americas: United States and Canada. Government effort within this group ranged between 4.40 and 6.00 with an average tourism competitiveness of 4.79. The surprise absent from this group is Spain, best performer in terms of tourism competitiveness; due to its technology level not falling within the range, it has therefore been counted out. The Elite class, second best performer, is also considered a top class because its technology level and its government effort are good. In fact, the government effort is better than the Gold class and varies between 5.20 and 6.20 whereas the technology indicator varies between 4.80 and 5.50. With an average tourism competitiveness of 4.27, Spain falls into this category. Besides the top performers, there is the "Middle Class" displaying an above average technology level ranging between 4.20 and 5.70, a government effort between 3.60 and 5.00 and an average tourism competitiveness (4.09) which corresponds to the average competitiveness of the sample. While the first two groups represent the situation desired by all countries, there are two remaining groups which show weakness in either or both of the constructs under study. The "Technology Concentration" class is one in which clear improvements in technology level are needed although the government effort is average. This group has an average tourism competitiveness of 3.65, a technology indicator below average (between 2.60 and 4.50) coupled with efforts from the government to promote tourism being above average (between 3.30 and 5.80). The last group indicates improvements are needed in either construct, both being lower than average, which explains the label "General Improvements" of this group. As a result, the average competitiveness of tourism (3.30) is low compared to the other groups.

Nothing reaches perfection in a competitive world. As countries compete almost about everything and anything, there is always a need for improvements in order to benchmark or compete. It would be easier to consider the top performers as groups where no improvements are needed. However, countries in these groups can still improve both factors towards their peak if possible. The difference between the two groups is that the Gold class will be better off focusing on government efforts while the Elite class should devote more efforts in technology's betterment. The Middle class needs to improve both factors to reach either of the top-performers but a greater focus should be on government efforts. Technology concentration is where technology improvements are mandatory at least to reach an average level; government efforts can be worked on aiming at peak level rather than average. General improvements, the bottom class where both variables are way below average, indicates that both factors need a dedication to their improvements. The previous analysis proved that actions aiming at improving technology and government efforts should be simultaneous because they mutually influence each other's variation. Some actions for improvements could be either implementing policies that attract more foreign direct investment in the industry, or policies that promote a better quality of electricity supply, or even policies that heavily promote tourism, augmentation of government expenditures in tourism, policies for better service quality, security, etc.

Figure 3. Cluster centers and distribution of tourism competitiveness

Figure 3 introduces a scatter which represents the centers of each groups as well as their characteristics, including their respective average tourism competitiveness achievement. It should not be ignored however that within one group, there are significant differences between members constituting the group. The bubbles are designed just to show the competitiveness achievements between clusters, therefore the better the Tourism Competitiveness performance, the bigger the bubble.

The communalities presented earlier in Table 3 indicated that, on the technology variable set, there were three major contributors to the canonical solution in the following order: ICT1, ICT2 and ICT8. A secondary contribution was displayed by ICT 7 (Mobile Network Coverage). The other set also had three major contributors : P3, P6 and P8. While it is clear that travel and tourism relies on more pillars than just technology and government effort, it is important to understand that these two have displayed the highest weight (Gooroochurn & Sugiyarto, 2005) and are of great importance to the index, whether taken separately or together. In the present study, the existence of a complex and multifaceted relationship between the two construct has been demonstrated and improving tourism competitiveness could start by the improvement of these two, taken together rather than on their own, that is precisely the reason they are considered a two-headed animal within the index. An animal possessing two heads does not mean it can travel two different paths at the same time; rather, the two heads would need to harmoniously cooperate and lead the body in one single direction, which is technology and government effort's case. Further considerations prove that individual indicators constituting the sets of variables should be highly regarded while aiming at improvements of tourism competitiveness, such as ICT use for biz-to-biz transactions, ICT use for biz-to-consumer transactions, quality of electricity supply, government prioritization of travel and tourism industry, effectiveness of marketing and branding as well as country brand strategy rating. For example, the relationship of technology and government effort could be illustrated as follow: without a stable quality of electricity supply, attracting the today's tourist becomes harder considering the traveler needs stable electricity in order to fully access all advantages of technologies, stay connected with family and friends or even for leisure and recreation purposes.

This study unveils the complex relationship between technology (*ICT Readiness*) and government effort in tourism (*Prioritization of Travel and Tourism*). More than just a simple linear relationship, the existence of three significant layers was discovered, the first layer being the most important. Canonical correlation proved therefore to be the appropriate technique to investigate their relationship since it allowed to mirror the depth and complexity of said relationship. Moreover, canonical correlation analysis limited the probability of finding a relationship when it really does not exist because it allowed for simultaneous comparisons among the variables rather than requiring many statistical tests be conducted (Sherry & Henson, 2005).

Countries from three different regions are included in the analysis, namely Europe, Asia-Pacific and the Americas. The focus not being primarily on regions, the countries aiming at improving their travel and tourism competitiveness should not prioritize technology or government effort but should rather accommodate the simultaneous development of both. These constructs share their variance in a way that is approximately the same,

which is indicative of both constructs having almost a similar impact on each other within the competitiveness index. Therefore, the ideal situation would be to work at improving both at the same time considering failure to do so could easily have negative drawbacks on how well any of them would perform taken separately, which would later influence the overall tourism competitiveness, as it is arguably the case within the Technology Concentration group for example. Working on both at the same time does not however imply they will require the same focus. With the known importance of technology to tourism, and the proven mutual importance of both constructs to each other, private investors may decide to invest in the sector while being assured of the government efforts to value their investments without interfering in private matters. If tourism competitiveness was solely depending on these two constructs, the various stakeholders within society would therefore make informed decisions for the betterment of their economy and they would know precisely where to concentrate their efforts in order to reach new levels of development via a competitive tourism industry.

This study contributes to the body of literature in that it unveils the relationship of two important constructs related to tourism competitiveness. Harmonious cooperation between technology and government effort in support to the tourism industry only lean towards the betterment of overall tourism competitiveness as approached and defined by the World Economic Forum.

5. Conclusion

The findings of this research support the existence of a multi-dimensional and complex relationship between technology and government effort towards tourism competitiveness, respectively referred to as Information and Communication Technology Readiness and Prioritization of Travel and Tourism within the TTCI. Canonical Correlation proved to be a useful technique allowing the investigation of the multivariate shared relationship between constructs, leaning on the flexibility of the method (Fox & Hammond, 2017; Sherry & Henson, 2005). Transposed at the country level, these findings indicate that countries seeking improvements of their tourism competitiveness index, rather than emphasizing on either of these two, should work at improving both, given the way they influence the variation of each other and they can find which cluster they belong to in the Appendix in order to use the recommendations that best fit their situation. This conclusion is supported by the redundancy analysis which reveals the shared variance between the constructs. Moreover, it is important to understand that the development of technology in a touristic context can be beneficial, as it can be a tool to reinforce tourism activities, build a solid brand and promote tourism activities at a wider scale. It would be a win-win situation as a well-organized government can only favor technology development if no interference is running.

The analyses show that technology can be a tool that best serves the government effort in support of the tourism industry. At the same time, one of the functions extracted is pointing at the break up point between technology and the government activities. It is true that redundancy analysis shows both constructs influencing each other; however, they do so in a limited manner, which indicates rather than being a total blend, they only influence each other to a certain level and there is separation in the roles they both have to play. Countries should try at best to emphasize on balanced cooperation between technology and government efforts, making sure there is no excessive interaction. This is further evidence of the two-headed animal nature these constructs display within the index: two heads won't necessarily allow an animal to go in two opposite directions, the heads have to cooperate and lead the body in one direction; they have to be worked on at the same time to improve the industry's competitiveness.

The present study is based on data presented by the World Economic Forum within the TTCR 2017: Paving the way for a more sustainable and inclusive future. The findings can't be generalized and are specific to the competitiveness of the countries in 2017. However, repeatability of similar studies for other years will contribute to increase knowledge on the topic. Considering three regions were taken into consideration within the dataset, extending the results to the whole set would be meaningless without prior analyses.

Mention is made in the literature of how important technology is to tourism competitiveness and there is no doubt its importance might keep growing due to the fast development of new technologies. Tourists of our era rely on technology for information gathering, travel planning and convenience while tourists from the past had limited access to information (Chung & Koo, 2015). Therefore, further studies might be oriented towards the benefits applying big data analytics could bring to tourism competitiveness, considering that big data is now the trend and applications of big data are found in almost every aspects of service provision in tourism industry.

References

Aramendia-Muneta, M. E., & Ollo-Lopez, A. (2013). ICT Impact on tourism industry. *International Journal of Management Cases, 15*(2), 87-98.

Aronsson, L. (2000). The development of sustainable tourism. London: Continuum.

Augustin, J. L. P., & Liaw, S. Y. (2017). Tourism competitiveness index of the Asia-Pacific region through consistency analysis. *Asia Pacific Journal of Tourism Research, 12,* 1295-1307. https://doi.org/10.1080/10941665.2017.1391855

Bojnec, S., & Kribel, Z. (2004). Information and Communication Technology in Tourism, in Intellectual Capital and Knowledge Management. Proceedings of the 5th International Conference of the Faculty of Management Koper, University of Primorska, (pp. 445-454). Portoroz, Slovenia. Consulté le November 18-20, 2004, sur http://www2.fm-kp.si/zalozba/ISB/961-6486-71-3/445-454.pdf

Bouquet, M., & Winter, M. (1987). Introduction: Tourism Politics and Practice. Dans e. M. Bouquet and M. Winter, Who from their Labours Rest: Conflict and Practice in Rural Tourism (pp. 1-8). Aldershot: Gower.

Bramwell, B. (2011). Governance, the state and sustainable tourism: a policital economy approach. *Journal of Sustainable Tourism, 19*(4-5), 459-477. https://doi.org/10.1080/09669582.2011.576765

Buhalis, D. (2000). Marketing the competitive destination in the future. *Tourism Management, 21*(1), 97-116. https://doi.org/10.1016/S0261-5177(99)00095-3

Buhalis, D., & Kaldis, K. (2008). eEnabled internet distribution for small and medium sized hotels: the case of Athens. *Tourism Recreation Research, 33*(1), 67-81. https://doi.org/10.1080/02508281.2008.11081291

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet the state of e-tourism research. *Tourism Management, 29,* 609-623. https://doi.org/10.1016/j.tourman.2008.01.005

Buhalis, D., & O'Connor, P. (2005). Information communication technology revolutionizing tourism. *Tourism Recreation Research, 30*(3), 7-16. https://doi.org/10.1080/02508281.2005.11081482

Chan, N. I., & Guillet, B. D. (2011). Investigation of Social media marketing: how does the hotel industry in Hong Kong performs in marketing on social media websites? *Journal of Travel Tourism Market, 28,* 345-368. https://doi.org/10.1080/10548408.2011.571571

Chung, N., & Koo, C. (2015). The use of social media in travel information search. *Telematics and Informatics, 32*(2015), 215-229. https://doi.org/10.1016/j.tele.2014.08.005

Citrin, J. (1974). Comment: the political relevance of trust in government. *The American Political Science Review, 68*(3), 973-988. https://doi.org/10.2307/1959141

Crotti, R., & Misrahi, T. (2015). The Travel and Tourism Competitiveness 2015: Growth through shocks. Récupéré sur http://www.weforum.org

Crotti, R., & Misrahi, T. (2017). The Travel and Tourism Competitiveness Report 2017: Paving the way for a more sustainable and inclusive future. Récupéré sur http://www.weforum.org

Crouch, G., & Richie, J. R. (1999). Competitive tourism destinations: combining theories of comparative advantage. Working Paper. Ninth Australian tourism and hospitality research conference. Adelaide.

Crouch, G., & Ritchie, J. R. (1999). Tourism, Competitiveness, and Societal Prosperity. *Journal of Business Research, 44*(3), 137-152. https://doi.org/10.1016/S0148-2963(97)00196-3

Dos Santos, B. L., Peffers, G. K., & Mauer, D. C. (1993). The impact of information technology investment announcements on the market value of the firm. *Information Systems Research, 4*(1), 1-23. https://doi.org/10.1287/isre.4.1.1

Dredge, D., & Jenkins, J. (2007). Tourism and policy and planning. Milton: John Wiley.

Dupeyras, A., & MacCallum, N. (2013). Indicators for measuring Competitiveness in Tourism: A guidance document. OECD Publishing. Consulté le 02 2013, sur.

Dwyer, L., & Kim, C. (2003). Destination competitiveness: determinants and indicators. *Current issues in tourism, 6*(5), 369-414. https://doi.org/10.1080/13683500308667962

Dwyer, L., Forsyth, P., & Rao, P. (2000b). The price competitiveness of travel and tourism: A comparison of 19 destinations. *Tourism Management, 21*, 9-22. https://doi.org/10.1016/S0261-5177(99)00081-3

Dwyer, L., Mistilis, N., Forsyth, P., & Rao, P. (2000a). Sectoral analysis of price competitiveness of tourism: An international comparison. *International Journal of Tourism Research, 3,* 123-139. https://doi.org/10.1002/jtr.292

Edwards, J. R., & Bagozzi, R. P. (2000). On the Nature and Direction of Relationships Between Constructs and Measures. *Psychological Methods, 5*(2), 155-174. https://doi.org/10.1037/1082-989X.5.2.155

Elliott, J. (1997). Tourism: Politics and public sector management. London: Routledge.

Enright, M. J., & Newton, J. (2004). Tourism Destination Competitiveness: a quantitative approach. *Tourism Management, 25*(6), 777-788. https://doi.org/10.1016/j.tourman.2004.06.008

Enright, M. J., & Newton, J. (2005). Determinants of Tourism Destination Competitiveness in Asia-Pacific: Comprehensiveness and Universality. *Journal of Travel Research, 43*(4), 339-350. https://doi.org/10.1177/0047287505274647

Fox, S., & Hammond, S. (2017). Investigating the multivariate relationship betwenn impulsivity and psychopathy using canonical correlation analysis. *Personality and Individual Differences, 111*(2017), 187-192. https://doi.org/10.1016/j.paid.2017.02.025

Garau, J. (2006). Proposal of two complementary indexes for measuring tourism competitiveness of Mediterranean destinations: outgoing results of a pilot study from the industry side'. International Conference of Trends, Impacts and Policies on Tourism Development, (pp. 18-20). Palma de Mallorca.

Gomezelj, D. O., & Mihalic, T. (2008). Destination competitiveness: applying different models, the case of Slovenia. *Tourism Management, 29*(2), 294-307. https://doi.org/10.1016/j.tourman.2007.03.009

Gooroochurn, N., & Sugiyarto, G. (2005). Competitiveness indicators in the travel and tourism industry. *Tourism Economics, 11*(1), 25-43. https://doi.org/10.5367/0000000053297130

Haahti, A. J., & Yavas, U. (1983). Tourists perceptions of Finland and selectd European countries as travel destinations. *European Journal of Marketing, 17*(2). https://doi.org/10.1108/EUM0000000004833

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis: A Global Perspective (éd. Seventh Edition). New Jersey: Pearson.

Khin, E. E., Daengbuppha, J., & Nonsiri, P. (2014). Destination Competitiveness: A structural model for measuring attributes competitiveness of Bagan, Myanmar. *International Journal of Business, Economics and Law, 4*(2), 51-59.

Kozak, M., & Rimmington, M. (1998). Benchmarking: destination attractiveness and small hospitality business performance. *International Journal of Contemporary Hospitality Management, 10,* 74-78. https://doi.org/10.1108/09596119810227767

Kozak, M., & Rimmington, M. (1999). Measuring tourist destination competitiveness: Conceptual considerations and empirical findings. *International Journal of Hospitality Management, 18*(3), 184-188. https://doi.org/10.1016/S0278-4319(99)00034-1

Lee, C. K., Var, T., & Blaine, T. W. (1996). Determinants of inbound tourism expenditure. *Annals of Tourism Research, 23*(3), 527-542. https://doi.org/10.1016/0160-7383(95)00073-9

Leontitis, A., & Pagge, J. (2007). A simulation approach on Cronbach's alpha statistical significance. *Mathematics and Computers in Simulation, 73*(5), 336-340. https://doi.org/10.1016/j.matcom.2006.08.001

Madrigal, R. (1995). Residents' Perceptions and the Role of Government. *Annals of Tourism Research, 22*(1), 86-102. https://doi.org/10.1016/0160-7383(94)00070-9

Mihalic, T. (2007). ITC and productivity - the case of the Slovenian travel industry. Productivity in Tourism: fundamentals and concepts for achieving growth and competitiveness, pp. 167-188.

Nunkoo, R. (2015). Tourism development and trust in local government. Tourism Management, 46, 623-634. https://doi.org/10.1016/j.tourman.2014.08.016

Papatheodorou, A. (2002). Exploring competitiveness in Mediterranean resorts. *Tourism Economics, 8*(2), 133-150. https://doi.org/10.5367/000000002101298034

Pearce, P. L. (1989). Tourist Development (2nd ed.). London: Longman.

Perles, J. F. (2004). Turismo, Ventaja competitiva y Desarollo Local, Doctoral Thesis. Universidad de Alicante.

Pulido-Fernandez, J. I., & Rodriguez-Diaz, B. (2016). Reinterpreting the World Economic Forum's global tourism competitiveness index. *Tourism Management Perspectives, 20,* 131-140. https://doi.org/10.1016/j.tmp.2016.08.001

Ritchie, B. J., & Crouch, G. I. (2003). The competitive destination, a sustainable tourism perspective. Cambridge: Cabi Publishing. https://doi.org/10.1079/9780851996646.0000

Ruhanen, L. (2013). Local Development: facilitator or inhibitor of sustainable tourism development. *Journal of Sustainable Tourism, 21*(1), 80-98. https://doi.org/10.1080/09669582.2012.680463

Scott, B. R., & Lodge, G. C. (1985). US Competitiveness in the World Economy. Boston, MA: Havard Business School Press.

Sherry, A., & Henson, R. K. (2005). Conducting and Interpreting canonical correlation analysis in personality research: A user-friendly primer. *Statistical Development and Applications, 84*(1), 37-48. https://doi.org/10.1207/s15327752jpa8401_09

Sigala, M., Christou, E., & Gretzel, U. (2012). Social media in travel, tourism and hospitality: Theory, Practice, and cases. Great Britain: MPG Books Group, UK.

Tabachnick, B. G., & Fidell, L. S. (1996). Using multiariate statistics (éd. 3rd ed.). New York: Harper-Collins.

Tanja, A., Markovic, V., Davidovic, N., & Jovanovic, T. (2011). Integrated Model of Destination Competitiveness. *Geographica Pannonica, 15*(2), 58-69. https://doi.org/10.5937/GeoPan1102058A

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2,* 53-55. https://doi.org/10.5116/ijme.4dfb.8dfd

Wang, D., & Ap, J. (2013). Factors affecting tourism policy implementation: A conceptual framework and a case study in China. *Tourism Management, 36,* 221-233. https://doi.org/10.1016/j.tourman.2012.11.021

Wang, Y., & Bramwell, B. (2012). Heritage protection and tourism development priorities in Hangzhou, China: a political economy and governance perspective. *Tourism Management, 33*(4), 988-998. https://doi.org/10.1016/j.tourman.2011.10.010

Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism Management, 31*(2), 179-188. https://doi.org/10.1016/j.tourman.2009.02.016

Appendix

Note: Statistical Significance test for the Model

Effect: within cells regression / Multivariate Tests of Significance (S=6, M=1/2, N=36 1/2)

Test name	Value	Approx. *F*	Hypothesis *DF*	Error *DF*	Significance of *F*
Pillais's	1.232	2.584	48.00	480.00	.000
Hotelling's	1.929	2.947	48.00	440.00	.000
Wilks's	0.220	2.804	48.00	379.09	.000
Roy's	0.495				

Note: Dimension Reduction Analysis

Roots	Wilks λ	*F*	Hypothesis *DF*	Error *DF*	Significance of *F*
1 to 6	0.220	2.804	48.00	373.09	.000
2 to 6	0.435	2.016	35.00	322.13	.001
3 to 6	0.629	1.598	24.00	269.83	.041
4 to 6	0.772	1.417	15.00	215.73	.141
5 to 6	0.903	1.033	8.00	158.00	.414
6 to 6	0.988	0.334	3.00	80.00	.800

Note: Standardized Canonical Coefficients for ICT Readiness

Variable	*Function No.*		
	1	*2*	*3*
ICT1	1.330	1.591	0.804
ICT2	-0.459	-1.896	-0.115
ICT3	0.010	-0.874	-0.309
ICT4	-0.178	0.353	1.091
ICT5	0.011	0.086	0.167
ICT6	-0.020	0.570	-0.538
ICT7	-0.095	-0.031	-0.757
ICT8	0.271	-0.183	-0.826

Note: Correlations between ICT Readiness and canonical variables

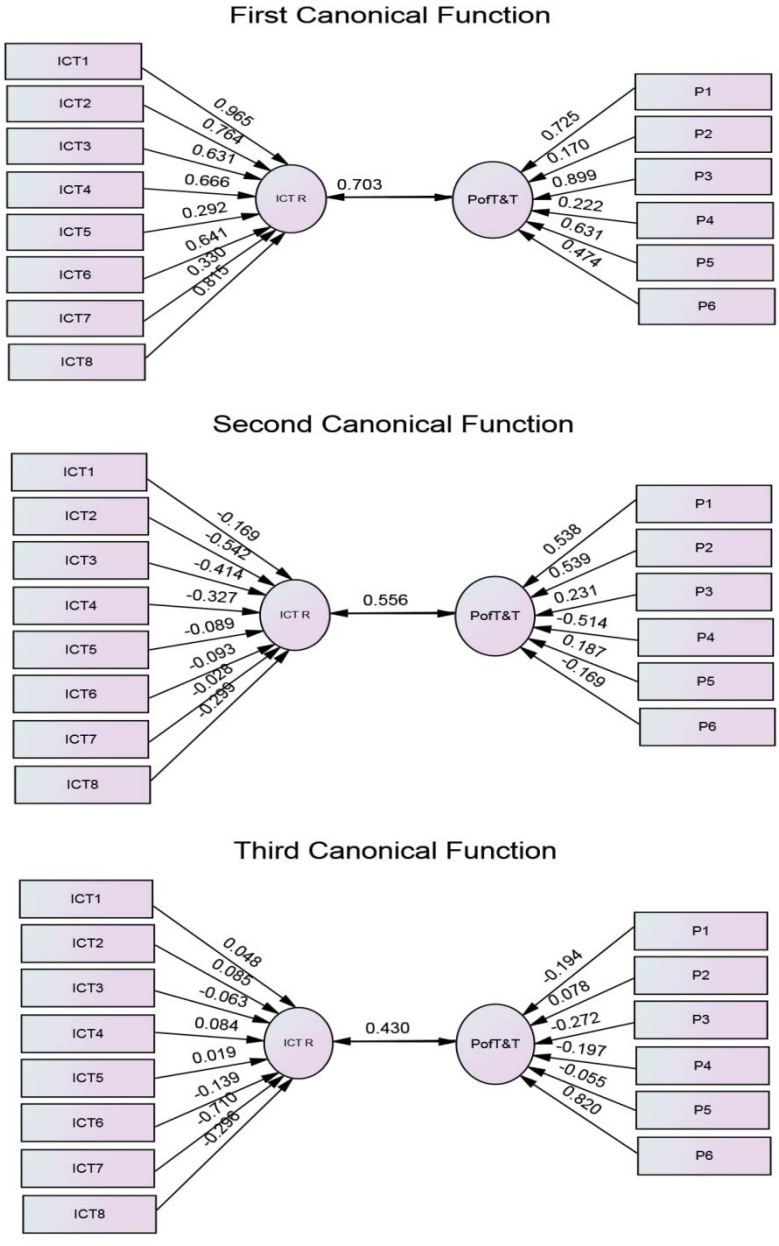
Variable	Function		
	1	2	3
ICT1	0.965	-0.170	0.048
ICT2	0.764	-0.542	0.085
ICT3	0.631	-0.414	-0.063
ICT4	0.666	-0.327	0.084
ICT5	0.292	-0.089	0.019
ICT6	0.641	-0.093	-0.139
ICT7	0.330	-0.028	-0.710
ICT8	0.815	-0.299	-0.296

Note: Standardized canonical coefficients for Prioritization of Travel and Tourism

Variables	1	2	3
P1	-0.372	1.294	0.104
P2	-0.115	0.350	0.161
P3	1.068	-0.999	-0.677
P4	-0.016	-0.551	-0.272
P5	0.305	0.172	0.184
P6	0.294	-0.180	0.950

Note: Correlations between Prioritization of Travel and Tourism and canonical variables

Variables	1	2	3
P1	0.726	0.538	-0.194
P2	0.170	0.539	0.078
P3	0.900	0.231	-0.272
P4	0.222	-0.514	-0.197
P5	0.631	0.187	-0.055
P6	0.475	-0.170	0.820



Note: Canonical Loadings and Correlations for the three canonical functions extracted

List of the countries taken in the respective order of analysis:

1- Japan 2- Australia 3- Hong Kong 4- Singapore 5- China 6- New Zealand
7- Korea (Rep) 8- Malaysia 9- Taiwan 10- Thailand 11- India 12- Indonesia
13- Sri Lanka 14- Vietnam 15- Philippines 16- Lao PDR 17- Cambodia 18- Mongolia
19- Nepal 20- Pakistan 21- Bangladesh

22- USA 23- Canada 24- Mexico 25- Brazil 26- Panama 27- Costa Rica
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81- Kazakhstan 82- Armenia 83- Ukraine 84- Macedonia 85- Serbia 86- Albania
87- Bosnia and Herzegovina 88- Kyrgyz Republic 89- Moldova

	Members of each Cluster
Cluster 1 Technology Concentration	Indonesia, Sri-Lanka, Philippines, Lao PDR, Cambodia, Nepal, Mexico, Panama, Peru, Ecuador, Dominican Rep., Guatemala, Honduras, Nicaragua, El Salvador, Paraguay, Georgia, Armenia, Ukraine, Albania (20 Countries: 6 Asia-Pacific, 10 Americas, 4 Europe)
Cluster2 Middle Class	China, Malaysia, Taiwan, Thailand, Brazil, Chile, Argentina, Colombia, Trinidad & T., Italy, Belgium, Croatia, Czech Republic, Slovenia, Russian Federation, Turkey, Bulgaria, Poland, Hungary, Latvia, Lithuania, Slovak Republic, Romania, Azerbaijan, Montenegro, Kazakhstan, Macedonia FY, Serbia (28 Countries: 4 Asia-Pacific, 5 Americas, 19 Europe)
Cluster 3 Elite Class	Costa Rica, Barbados, Jamaica, Uruguay, Spain, Portugal, Greece, Malta, Cyprus (9 Countries: 4 Americas, 5 Europe)
Cluster 4 General Improvements	India, Vietnam, Mongolia, Pakistan, Bangladesh, Bolivia, Venezuela, Bosnia and Herzegovina, Kyrgyz Republic, Moldova (10 Countries: 5 Asia-Pacific, 2 Americas, 3 Europe)
Cluster 5 Gold Class	Japan, Australia, Hong Kong SAR, Singapore, New Zealand, Korea Rep., United States, Canada, France, Germany, United Kingdom, Switzerland, Austria, Netherlands, Norway, Sweden, Ireland, Iceland, Luxembourg, Denmark, Finland, Estonia (22 Countries: 6 Asia-Pacific, 2 Americas, 14 Europe)

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General

Tel: 1-416-642-2606

Fax: 1-416-642-2608

E-mail: info@ccsenet.org

Website: www.ccsenet.org

Mailing Address

1120 Finch Avenue West

Suite 701-309

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