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Impact of Digitalization on the Speed of Internationalization

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Abstract

Digitalization combined with globalization is the current megatrend that impacting the international business landscape and creates opportunities for new business models. Embracing digitalization enables firms for speedy internationalization. Although the phenomenon of early internationalization has received increasing attention in the field of International Entrepreneurship over the past decades, however, there is a lack of focus on the role of digitalization that allows a higher speed of internationalization. This paper proposes a model that highlights the moderating role of digitalization on international business competencies and speed of internationalization. We argue that small and medium enterprises able to enter international markets more rapidly due to the impact of digitalization. This study addresses a gap in the literature and practical development needs for better understanding the impact of digitalization on the speed of internationalization. The limitations and implications of this study will be discussed for theoretical development and future research direction.

Keywords: speed of internationalization, digitalization, international business competencies, small and medium enterprise, born global

1. Introduction

Globalization and digitalization facilitate born globals' internationalization. Born globals (Rennie, 1993) refer to small and medium enterprises (SMEs) that internationalize within 3 years from their official establishment. They usually enter the international market through exporting with more than 25% sales from international markets (Cavusgil & Knight, 2015). Differ from traditional SMEs that mostly operate in their local market, born globals are not restricted by scarce resources and actively explore opportunities abroad.

Contextual variables such as institutional environment, economic situation, social-cultural and market condition affect the speed and degree of born global internationalization (Knight & Liesch, 2016). Although researchers apply different criteria to define born global, it is commonly accepted as a term that describes firms that undergone speedy internationalization. Born global studies reveal the success factors for early and rapid internationalization can be categorized into three main factors, namely the entrepreneur (Cao & Ma, 2009; Falahat, Knight, & Alon, 2018; Kaur & Sandhu, 2014), the organization (Knight & Liesch, 2016; Øyna & Alon, 2018) and its environment (Hagen & Zucchella, 2014; Karjaluoto & Huhtamäki, 2010).

Born global literature commonly agrees digital technology advancement has facilitated the international business of born globals (Sinkovics, Sinkovics, & "Bryan" Jean, 2013; Zhang, Sarker, & Sarker, 2013; Zhang & Tansuhaj, 2007). Digital technologies lower the barriers to the acquisition of market information and cross-border communication. Capability to leverage digitalization is likely to accelerate the internationalization process of a firm.

Digitalization refers to on-going adoption and application of digital technologies by a firm (Noroozi et al., 2010). As digitalization is a megatrend that happening within the business context, its impact on born global internationalization worth investigation. Despite prior studies recognize the positive association between international business competencies and born global international performance, the discussion rarely includes digitalization (Knight & Liesch, 2016). This study is in response to the calls for more research on the impact of digitalization on internationalization by Coviello, Kano, and Liesch (2017), Manyika et al. (2016), and Vahlne and Johanson (2017).

We integrate the understanding from born global and digitalization literature in this study. We posit the interplay between international business competencies and born global international performance is not independent from the influence of digitalization. Understanding the role of digitalization and its impact on born global international performance is salient to all policymakers and SME practitioners that would like to embrace digitalization for better international performance.

In this paper, we conceptualize the impact of digitalization on international business competencies and speed of internationalization. We address the research question about how digitalization impacting born global speed of internationalization. From the conceptual model, researchers could assess the contingent digitalization factor that influences the empirical results in international business research. Also, SME practitioners and policymakers could understand the urgency of digital transformation within their operating context.

2. Literature Review

2.1 Model Development

Born global literature (Knight & Cavusgil, 1996; Oviatt & McDougall,1994, 1999, 2005) mostly employs Resource-Based Theory (Barney, 1991; Barney, Ketchen, & Wright, 2011) and Industrial Organization Theory (Porter, 1981) for clarification of born global accelerated internationalization. Grounded on these two theories, we develop a conceptual model that consists of international business competencies and digitalization. We posit these two variables must be investigated simultaneously for a better understanding of its joint effect on the speed of internationalization.

Global digitalization has gradually affected the domestic market of a firm. Buyers can reach various sellers around the world and worldwide exporters are growing. As a result, the domestic market may shrink due to the lack of purchase from domestic market in the current borderless marketplace. Thus, digitalization increases the export propensity of domestic SME as a firm survival strategy when they perceive any risk or as a firm growth strategy when they perceive an opportunity. Nevertheless, not every firm possess the capabilities to internationalize early. We argue that international business competencies are prerequisites for a firm to succeed in the context of digitalization.

Digitalization of business environment allows these firms to promote and sell their products at affordable cost. This mechanism is not working if they are operating in an export market without infrastructure readiness and non-digital oriented (Gregory, Karavdic, & Zou, 2007). Similar to the impact of technology turbulence (Kaleka, 2012) on exporting firms, we argue that not all industries and markets are digitalized at the same pace, thus, not all firms able to adopt digitalization in their business model. The degree of digitalization affects the possibilities of a firm to internationalize early despite they are competent in international business. The conceptual model is outlined in Figure 1 and further will be discussed in the next section.

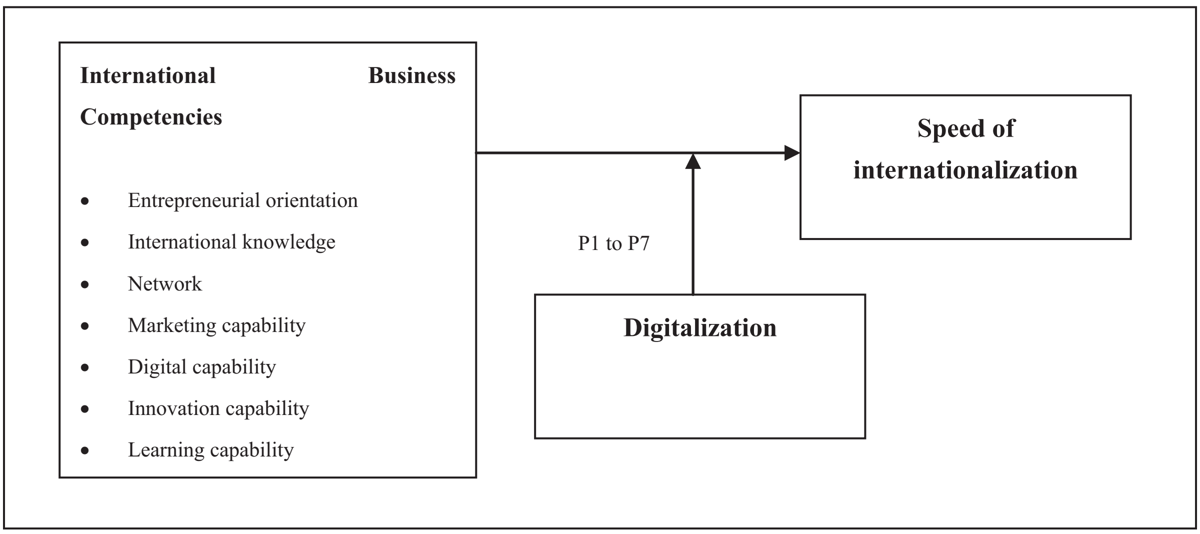

Figure 1. Conceptual model

2.2 Propositions Development

2.2.1 Digitalization and Speed of Internationalization

Digitalization facilitates knowledge acquisition and enhances business networking. It creates a business environment in which young exporters can learn fast and makes early and rapid internationalization possible (Johanson & Vahlne, 2009).

The effect of digitalization is critical for new venture internationalization in view that technological change is the foundation for speedy internationalization. It is the technological change in the last two decades that stimulated and facilitated the speedy internationalization of born globals (Oviatt & McDougall, 1994, 1999). According to Knight and Cavusgil (2004), the born global phenomenon is triggered by globalization that has made internationalization easier than before and the advances in communication and transportation technologies have reduced the transaction cost.

Under the foundation of technological changes, the international business environment is favourable for a smaller firm to assess resources and to leverage their firm's capabilities for early and rapid internationalization (Pagani & Pardo, 2017). Digitalization is therefore viewed as an opportunity for a small firm to enter the international market.

Owing to the adoption cost of digital technologies, digital transformation requires substantial investment (Choshin & Ghaffari, 2017). SMEs have limited resources for trial and error; understanding the impact of digitalization is necessary for their results-based decision making. Firms under the pressure of competition due to market transparency and liberalization tend to expand their market for growth and survival (Krammer et al., 2017; Wilden, Gudergan, & Nielsen, 2013).

Similar to the effects of globalization on firm performance (Knight, 2000), the impact of digitalization should be considered in international entrepreneurship. Many recent studies have been done for investigation of digitalization generally, but not specifically in born global context. Foroudi, Gupta, Nazarian and Duda (2017) found a positive influence of digital technology on a firm's marketing capability. Bouwman, Nikou, Molina-Castillo and Reuver (2018) observed digitalization impacting business models through innovation activity, strategy and technology turbulence. In the following section, we discuss the role of digitalization on international business competencies-performance relation.

Barney (1991) suggests that competitive advantage can only be generated and sustained by firm-level resources that are valuable, rare, inimitable and non-substitutable, only resources that are intangible in nature possess these criteria. Intangible resources are then becoming the focal point for the resource-based view (RBV) scholars. SMEs are characterized with limited tangible resources, intangible resources such as their international business competency is an important determinant for their success (Knight & Kim, 2008). International business competencies refer to a set of international knowledge and skills to handle international business. Born global literature has explored the necessary resources and capabilities that lead to speedy internationalization (Falahat, Mohamad, & Migin, 2013; Weerawardena, Mort, Liesch, & Knight, 2007), but the impact of digitalization on this skill set has not been extensively discussed.

For speedy internationalization, born globals with limited slack resources must be able to allocate their focus to develop the resources and capabilities that are perceived to affect competitive advantages for firm performance. The deployment of different resources and capabilities will lead to different outcomes. A firm with growth strategies will have different deployment plan if compare with a firm with survival strategies. The higher investment will be allocated for growth, but the limited investment will be allocated for profit-oriented survival strategies (Prange & Verdier, 2011). Born globals need to develop the right set of resources and capabilities that able to increase their chance to succeed in international market rapidly. In the below section, we discuss critical variables that give born global business competencies for speed of internationalization.

2.2.2 Entrepreneurial Orientation

According to new venture internationalization studies, born globals' entrepreneurial orientation is essential for their success (Knight & Cavusgil, 2004). The proactiveness, innovativeness and risk-taking characteristics determine whether these firms willing to challenge the international market. In SME internationalization studies, entrepreneurial orientation is associated with firm performance (Cannone & Ughetto, 2014; Falahat et al., 2018; Fernández-Mesa & Alegre, 2015; Gerschewski, Rose, & Lindsay, 2015; Gruber-Muecke & Hofer, 2015; Zhang et al., 2013). Highly entrepreneurial firms are more committed to build the required capabilities that in line with their competitive strategies to excel (Weerawardena, 2003; Weerawardena et al., 2007). Entrepreneurial orientation is a necessitate factor that triggers early internationalization (Cavusgil & Knight, 2015; Øyna & Alon, 2018).

Among entrepreneurial firms, empirical findings showed that early internationalizing firms are mostly found in high-technology industries. These industries have an ecosystem that is more digitalized than traditional industries in their supply-chain activities from sourcing, purchasing, manufacturing and marketing. The digitalization of supply-chain among traditional industries also create opportunities for these firms to internationalize early (Gabrielsson and Gabrielsson, 2011). However, entrepreneurial firms that operating in a less digitalized environment would need to follow a step by step approach in their route of internationalization. Based on this, we propose:

P1: For SMEs with a strong emphasis on digitalization, the greater the entrepreneurial orientation, the greater the speed of internationalization

2.2.3 International Knowledge

International knowledge determines the commitment decisions for internationalization (Johanson & Vahlne, 1977). From the experiential knowledge that gained during the international business activities, the firm has a better understanding of the opportunities or risks of the international business, thus able to increase their commitment stage by stage. This concept can be applied to born global firms as well (Johanson & Vahlne, 2009). Although the born global firms normally export within 3 years from the inception, most of the founders of born global firms have prior international knowledge and experience which accelerate their decision making of internationalization commitment (Knight & Liesch, 2016; Madsen & Servais, 1997). Along the internationalization process, knowledge is the most critical asset of the firm to achieve competitive advantage (Ismail, Khurram, Abadi, & Jafri, 2017; McDougall & Oviatt, 2003). When firms obtain more market knowledge, they have a lower perception on environmental uncertainty in the foreign market, thus accelerate their exporting activities (Noroozi, Mobarekeh, & Zadeh, 2010) and enhance their export performance (Oura, Zilber, & Lopes, 2016).

Nevertheless, SMEs unable to accelerate the internationalization process by knowing the international business procedures or knowing the market needs. From a practical aspect, these knowledgeable firms must operate in an industry or a market that strongly affected by digitalization so that they could embrace the benefits of lower promotion and distribution cost. A knowledgeable firm that operating in a less digitalized context has to build substantial resources and business networks slowly, thus need a longer preparation time frame for internationalization. Hence, we propose:

P2: For SMEs that have a strong emphasis on digitalization, the greater the international knowledge, the greater the speed of internationalization

2.2.4 Network

Born global uses networks to overcome the constraints of scarce resources (Falahat, Migin, Chuan, & Kong, 2015; Freeman & Cavusgil, 2007; McDougall & Oviatt, 2003). The strong relationships with local authorities, investors, business partners, suppliers, distributors, customers, multinational enterprises can help born global to create sustainable competitive advantages (Falahat et al., 2018).

Freeman, Edwards, and Schroder (2006) proposed that born global firms with poor access to economies of scale and lack of financial and knowledge resources can overcome the constraints through network and alliances. They suggested five workable strategies in order to achieve this outcome e.g. use of a personal network, collaborative partnerships, client followership, use of advanced technology and multiple modes of entry. Felzensztein, Ciravegna, Robson, and Amorós (2015) observed that the network plays a role in determining the internationalization scope. Zhou, Wu, and Luo (2007) also found that social networks affect the internationalization orientation and firm performance. Hagen & Zucchella (2014) stated that strategic partnership is one of the main differentiators in born global's growth patterns regardless of the industry type. According to Freeman, Hutchings, Lazaris, and Zyngier (2010), network also a source of new knowledge for smaller born global firms. Network allows born global to source for complementary resources and capabilities which the firm is lacking through outsourcing of the tasks to reliable alliances (Madsen & Servais, 1997). Born globals can reach new business space faster by using the large channels provided by MNC partners (Gabrielsson & Manek Kirpalani, 2004). Strong relationships with government as part of the network also enable SMEs to gain benefits from government support programmes (Faroque & Takahashi, 2015). Krammer, Strange, and Lashitew (2017) found that access to external technology via licensing is one kind of relational resource that positively related to the export intensity of these firms. Many studies have found a positive relationship between network and firm performance (Kim & Hemmert, 2016; Krammer et al., 2017; Zhou et al., 2007).

Information communication technology facilitates information exchange between SMEs and their business partners. Instead of face-to-face meeting, they can exchange market and product information through digital communication tools. Digital communication tools have shorten distance among people and help to maintain close relationships with business partners through social media sharing and discussion. Of course, this could happen only in the network where business partners are active in digital communication. Based on this, we propose:

P3: For SMEs that have a strong emphasis on digitalization, the greater the network, the greater the speed of internationalization

2.2.5 Marketing Capability

Marketing capability is the strategic capability (Lenz, 1980) for a market-oriented firm. The ability of the firm to perform traditional marketing activities like proper segmentation-targeting-positioning of the market, and develop highly effective marketing 4P (product, price, place, promotion) strategies has brought them to international market (Weerawardena et al., 2007). Marketing capability helps a firm to gain sustained competitive advantage (Kamboj, Goyal, & Rahman, 2015; Weerawardena, 2003). Several empirical evidences have shown the positive association of marketing capability with international performance (Ahmadi, Cass, & Miles, 2014; Falahat & Migin, 2017; Kamboj et al., 2015; Pham, Monkhouse, & Barnes, 2017; Takahashi, Bulgacov, Semprebon, & Giacomini, 2016). Firms with high marketing capability can develop marketing strategy that meets the customer requirements. This capability is salient especially when a firm intends to enter new market rapidly.

Digital technology has significantly lowered the cost of traditional marketing through the online platform. Many firms leverage digital tools such as Alibaba e-commerce, Facebook, Instagram, Youtube, Google search engine etc. to promote their products and services to the world. Nevertheless, fundamental marketing capability such as determining the right target customer, proper positioning of the product, effective pricing and market sensing are required to support effective implementation of digital marketing. Investing in digitalization not only influence on the speed of internationalization but it is, in fact, a profitable investment for the firms that meeting the conditions to succeed with e-Commerce (Bergendahl, 2005).

SMEs that operating in an environment that is ready for digital marketing can utilize it for early internationalization. We then propose:

P4: For SMEs that have a strong emphasis on digitalization, the greater the marketing capability, the greater the speed of internationalization

2.2.6 Digital Capability

Digital capability is a firm's ability to apply digital technologies for value creation in their business activities. It is distinguished from the definition for Information Technology (IT) capability which is "the relative capabilities that help an organization create technical and market knowledge and facilitates intra-organizational communication flow" (Song, Nason, & Di Benedetto, 2008). Digital capability covers more than information flow and communication flow.

Technological change is the foundation of new venture internationalization (McDougall & Oviatt, 2003; Oviatt & McDougall, 1994, 1999). Born global's capability to adopt digital technologies such as the internet, digital marketing tools, e-commerce, big data, internet of things, cloud computing etc. in their business can directly or indirectly create competitive advantages in the digital economy. Several empirical findings had shown that adoption of one or more digital technologies leads to better international performance (Eggers, Hatak, Kraus, & Niemand, 2017; Gabrielsson & Gabrielsson, 2011; Gregory, Ngo, & Karavdic, 2017; Zhang & Tansuhaj, 2007). Firm possesses digital capability can utilize digital technology to optimize their processes, to support the creation of new products or services or to further support the bonding with business partners in their network (Pagani & Pardo, 2017). Hence, digital capability is likely to assist new venture in entering international market early.

Despite there is a psychic distance from countries to countries, digital products and services are more universal as compared with traditional products such as food, clothing and furniture. Firms with the digital capability that operating within an environment that favourable for selling of digital products or services would internationalize earlier than firms with products that restricted by demand and interest differences from one market to another.

Digital technologies such as automation, cyber-physical system etc. help firms to optimize their productivity. SMEs can adopt automation to increase their capacity. Nevertheless, the justification of investment for automation and availability of technology depends on the operating ecosystem, their customer preference and competitors' action.

In addition, firms with strong digital marketing capability can utilize this tool to boost company branding and market their products at a lower cost. However, this strategy is workable only if their target market is ready with a mature online infrastructure. So, we propose:

P5: For SMEs that have a strong emphasis on digitalization, the greater the digital capability, the greater the speed of internationalization

2.2.7 Innovation Capability

The concept of innovation is broad and there are many definitions of innovation from different scholars

(Kotsemir & Abroskin, 2013). We adopt the definition from OECD Oslo Manual, 3rd edition (OECD, 2005) which categorize innovation into four types, namely product innovation, process innovation, marketing innovation and organizational innovation.

Innovation is linked with born global phenomenon by Knight and Cavusgil (2004) in the award-winning article – "Innovation, organizational capabilities, and the born-global firm". According to the 2004 article, the innovation capability in offering new product and developing new market is essential for the success of born global firm (Knight & Cavusgil, 2004). Innovative capability is one of the important factors which allows born global firm to accelerate internationalization process despite scarce resources. Both technological and non-technological innovation can lead to sustained competitive advantage (Weerawardena, 2003). For example, innovation capability enhances a firm's ability to develop innovative products and increase its speed in introducing the products to the market (Sok & Cass, 2011). Several empirical findings acknowledge the contribution of innovation to firm performance (Oura et al., 2016; Raymond, Bergeron, & Croteau, 2013; Sok & Cass, 2011; Wu, Chen, & Jiao, 2016). When confronting with competitors around the world, innovation capability determines the product and service uniqueness which accelerate market entry (Knight & Cavusgil, 2004).

Apart from innovativeness, SMEs rely on effective distribution channel which they could promote their offerings within an affordable budget. Depending on the target market readiness, not all products can be easily sold online (Gregory, Karavdic, & Zou, 2007). Those innovative firms who can sell their unique products through an online platform can reach the market faster than others who rely on traditional distribution methods. Hence, we propose:

P6: For SMEs that have a strong emphasis on digitalization, the greater the innovation capability, the greater the speed of internationalization

2.2.8 Learning Capability

The role of learning capability is essential to ensure the continuity of existing competitiveness in international market (Johanson & Vahlne, 2009). A firm without learning capability is difficult to sustain in long run because of failure to develop the capabilities required for a sustainable competitive advantage in facing future challenges (Grant, 1991; Teece, Pisano, & Shuen, 1997). It is necessary to develop and maintain market-focused learning capability and internally-focused learning capability for accelerated internationalization, these capabilities will enable the firm to develop knowledge-intensive products (Weerawardena et al., 2007). Technological learning capability provides the advantages of quick response to market needs and therefore able to increase financial returns (Zahra, Ireland, & Hitt, 2000). New venture with minimal knowledge and information about foreign market needs to leverage their learning capability to overcome all possible challenges during the internationalization process (McDougall & Oviatt, 2003). Thus, learning capability is found to be positively associated with international performance (Evangelista & Mac, 2016; Fernández-Mesa & Alegre, 2015; Sok & Cass, 2011).

Among firms with learning capability, availability of online knowledge resource determines the speed of knowledge acquisition. SMEs operating in an industry that strongly affected by digitalization are more likely to gain product and market information from the digital platform as compared with SMEs operating in a traditional industry which has limited digitized information. When product and market knowledge can generally obtain from the internet with minimal cost, SMEs that capable to learn can reap the benefits from the knowledge treasure. Thus, we propose:

P7: For SMEs that have a strong emphasis on digitalization, the greater the learning capability, the greater the speed of internationalization

Practically, firm's digitalization affects the strength of the relationship between their international business competencies and speed of internationalization. For instance, a software company that operates on a digital platform can sell their products internationally without much transportation cost, but a traditional business without online customers is forced to follow the traditional way of business networking through huge investment for trade fair and face-to-face meetings. Despite both may have similar marketing competency, the software company is likely to internationalize early.

3. Method

In developing the conceptual model, the methodology applied is qualitative. The main aim is to scrutinize the interaction between firm's international business competencies and the impact of digitalization. We develop a model based on literature review (Marek, 2015). We used Science Direct and Google Scholar for article searching. First, we applied keywords such as “born global”, “early internationalization”, “rapid internationalization”, “speed of internationalization” and “international new venture” to search for papers related to success factors for the speed of internationalization. We conduct a literature review on factors affect born global speed of internationalization. To delineate the boundaries of the study, we focus on articles that discuss international business competencies for born global early internationalization and attempt to identify any born global research papers that discuss digitalization. In view of born global literature that concerning the impact of digitalization is scarce (Øyna & Alon, 2018), further on, we conduct a literature review on digitalization literature for an understanding of the impact of digitalization on firms’ performance. For this purpose, we applied keywords such as “digitalization”, “digital capability”, “digital orientation”, “IT capability”, “Industry 4.0”, “digital technology” to search for digitalization related papers. Subsequently, based on a review from born global literature and digitalization literature, we propose the conceptual model.

4. Implications and Conclusion

This paper has its theoretical implication on born global internationalization literature. We extend the understanding of the role of digitalization on the relationship between international business competencies and speed of internationalization. We connect the internal intangible resources and capabilities with industry related factor (digitalization) for a holistic view on born global speedy internationalization. The conceptual model is complementing born global capability-performance studies that mostly ignore the impact of digitalization.

Despite the conceptual model has not been empirically tested, there are few managerial implications for SMEs and policymakers who wish to embrace digitalization for speedy internationalization. First, the development of international business competencies is a prerequisite for speedy internationalization in digitalization context. Second, digitalization should be considered as an important step to internationalize early and rapidly. Third, policymakers can customize export acceleration program through assessment of current digitalization status among different types of industries. Industries that strongly impacted by digitalization need more assistance to develop fundamental international business skills, digital skills and adopt digital technologies. These firms are more likely to internationalize early and rapidly if they could develop necessary international business competencies to exploit digitalization trends.

The integrated view of digitalization for speedy internationalization is the main concept of the study. This paper conceptualizes the impact of digitalization on international business competencies for the speed of internationalization. We propose the important role of digitalization in the international arena. We argue that firms which able to ride on digitalization wave can internationalize earlier than other firms. Yet, more empirical studies are needed to examine this argument. As digitalization is an irreversible trend, integration of digitalization in international business studies is desperately in need.

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Net Working Capital and the Profitability: Empirical Evidence form Amman Stock Exchange

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Abstract

The current study investigates empirically the relationship between the net working capital and the profitability of the industrial companies for the period of 9 years from 2009-2017.

To fulfill this aim, the researcher used the analytical descriptive method on a sample consisted of 26 industrial companies listed in Amman Stock Exchange (ASE). The empirical result shows that net operating income and return on asset have positive relationship with net working capital. However, there is no relationship between net working capital and profit margin. The study recommends that to more attention for investing the net working capital by determining investment opportunities that reflect positively on profitability. Additionally, managers should raise the awareness of their employees regarding the importance of internal and external investment to increase the market share.

Keywords: net working capital, net operating income, profit margin, return on asset

1. Introduction

The way of gaining and investing money appropriately and efficiently is regarded as one of the management priorities; this can be achieved through the ability of company to manage their assets, requirements and owners' equity. This means an effective system of planning and controlling is needed to decide the expected financial requirements which, by its turn, will be reflected in achieving the basic goal of the companies; namely the profitability (Jiricek and Dostalova 2010; Lee and Lee, 2006).

Fama and French (2002) and Ehrhardt and Brigham (2003) refer to the essence of the financial management in finding value for the shareholders. They added that the profitability is one important factor in financing companies, thus the financial goal that the financial management tries to fulfill varies from one to another as illustrated in Table 1 below:

Table 1. The Financial Goal

Organization	Financial Objectives
Companies (Limited and Unlimited)	Wealth or Value Maximization
Public Corporations	Profit/Revenue Maximization
Federal, State or Local Government	Revenue Maximization
Charities, Clubs, Societies	Revenue Maximization

*source: adapted from Obara and Eyo (2000)

Hence, the financial management has to achieve a list of tasks in order to increase the future income and decrease the expected risk-rate (Subramanyam and Wild, 2009; Jiricek and Dostalova, 2010). These tasks are:

A- Achieving a growth in equity, profits and owners' returns.

B- Providing the necessary capital to establish and operate company and enabling investment.

C- Making decision concerning the provided capital to buy financial assets, technology development and financing company operation (inventory, claims and operation costs).

D- Deciding on the distribution or re-investment of profits.

2. Theoretical Framework

2.1 Net Working Capital

"Working capital may be referred to as net working capital generally means: current assets less current liabilities , where the concept of which appears in the statement of financial position / Balance Sheet is characterized by its fast turnover and its ease to convert it into liquid cash and current liabilities that matures and due for payment within a year or less. (Kaddumi and Ramadan, 2012)

The net working capital represents the difference between the current assets and the current liabilities and the relationship between them. Moreover, it refers to the degree of confidence in the ability of the current assets to fulfill the short-term obligations (Meyers, 2003; Ross, et al, 2010; Brigham & Houston, 2007; Brealey and Myers, 2006; Brealey et al, 2015).

The net working capital includes the current assets (cash, short-term investments, receivables, inventory and prepaid expenses) and the current liabilities (Account payables, Short term borrowings) (Arnold, 2008). The increase in net working capital is recognized as a positive indicator for the ability of the company to fulfill its obligations in short time (Gitman and Zutter, 2012) and, as a result, the financial manager should evaluate the best level of these elements (the current assets and liabilities) in a way that achieves trade-off between the element of return and risk (Lambersom, 1995).

Consequently, Paramasivan and Subramanian (2009) stated that the working capital is used to buy raw materials, pay salaries for employees, pay daily expenses, and maintenance expenses. It is also used to know the stability of the financial state of the companies and their abilities to fulfill their obligations as they come due.

Ross et al, (2010) state that the Net working capital is positive when current assets are greater than current liabilities. This means the cash that will become available over the next 12 months will be greater than the cash that must be paid out.

2.2 Profitability

2.2.1 Definition of Profitability

Profitability is regarded as a goal for all companies and a measurement to judge the efficiency of administrating their operational, financial and investment processes. It also refers to the relationship between the earned incomes and the investments that leads to this incomes, this can be measured through the relationship between the profits and sales or through the relationship between profits and investments that caused them. (Amirthalingam and Balasundaram, 2014; Dekan, 2009)

Necessarily, this leads to make appropriate financial and investment decisions that are positively reflected on profitability in light of a suitable volume of investment (Balasundaram, 2009). This might be achieved by making important decisions i.e. The investment decision and finance decision in the working capital through the trade-off between the return and risk factors (Brigham and Ehrhardt, 2011).

2.2.2 Measures of Profitability

Subramanyam and Wild (2009) indicated that profitability was analyzed on the basis of the following factors:

1. The investments: This could be done by evaluating the financial rewards of suppliers of the capital either by ownership or debit.
2. The operating performance: to assess the profit margin of the operating activities.
3. Investing or using the assets: to evaluate the effectiveness and efficiency of the assets to create sales.

Many measures could be used to find out the profitability of companies such as net operating income, profit margin and the return on assets (Ross, et al, 2010; Vance, 2003).

A. Net operating income: Net operating income is a suitable tool in assessing the profits of companies, if the profit is high, this means the performance is good, and so the quality of the company profit increases. However, if the profit is low, this means there are high administrative, sales or distribution expenses as stated by Gathuya (2005) and Anjum, et al (2012).

B. Profit margin: This measures the net income for each dollar from sales. A low profit margin refers to the different financial strategies adapted by companies not to a problem in the operating processes. Therefore, if the profit margin in a company is low, this might lead to a high rate of return on the investments of stakeholders because of the financial leverage. On the other hand, if the rate of return is high, this indicates a good performance of the company, high net income and a notable growth. (Brigham and Houston, 2007; Lee and Lee, 2006)

C. The return on assets: This measures the rate of profitability on assets or its final productivity, the amount of fulfilled wealth due to investing the assets: if this rate is high (for the industrial or historical criterion), this, according to (Gitman, 2002; Edmond, et al, 2006), means the performance and profit are good.

3. Literature Review

Evci and sak (2018) investigated the tradeoff between working capital management and firm's profitability by using the annual data for the period 2005–2016 of 41 firms listed on BIST Industrial Index in Turkey. Findings showed the existence of tradeoff working capital management and profitability. And a negative relationship exists between return on assets and payables deferral period, cash conversion cycle, the ratio of short-term financial debts to short-term debts, and the ratio of fixed assets to total assets while return on assets is positively related to inventory conversion period and sales growth.

To examine the impact of net working capital levels on the growth of companies, AbuHommous (2017) conducted his study on sample of 111 Jordanian companies that were listed in Amman Stock Exchange in the period between 1999-2015. The study showed that there was a positive impact of investing the working capital on growth of companies. Additionally, the study revealed that the small companies grew faster than the big ones.

Shahzad et al (2015) tested the effect of working capital management on profitability of cement industry of Pakistan. The study sample consisted 12 listed firms in Karachi stock exchange (KSC) for the time period of 2007-2013, the results show that through fitting working capital management the organization can expand its profitability, The study also found that the working capital must be managed efficiently to increase its profitability.

Kaddumi and Ramadan (2012) investigated the impact of working capital management on the performance of companies measured by profitability. The study was conducted on a sample consisted of 49 industrial Jordanian companies that were listed in Amman Stock Exchange in the period between 2005-2009. The study proved that working capital management and performance were positively related to each other. The study showed that the effective management of the working capital increased the wealth of stakeholders.

Qazi et al, (2011) investigated the impact of working capital of firm's profitability; the study was conducted on a sample of 20 companies from oil, gas and automobile industry listed in Karachi Stock Exchange during (2004-2009). The results of the study found out only net working capital is positive and significant with profitability, and numbers of days of account receivable and inventory turnover in days are positive but insignificant, and all other independent variables are negative and insignificant.

Popescu and Pirvutoiu (2009) studied the analysis of the net working capital of the agricultural companies (grain production companies) in years 2005-2009. The study showed that the net working capital had a positive value in the way which the ability of companies increased to deal with short-term debts and the expected operating expenses.

Finally, Raheman and Nasr (2007) studied the relationship between working capital management and profitability for a sample of 94 companies listed on the Karachi Stock Exchange for the period 1999-2004. The results showed that there was a strong negative relationship between variables of the working capital management and profitability of the firm, and negative relationship between liquidity and profitability, also a significant negative relationship between debt used by the firm and its profitability.

3.1 This Study

This study differs from the previous studies as it is considered an attempt to link three variables which explicitly seem independent, but they are working together as one unit; the financial managements of companies show high interest in these variables in both sides: practical and theoretical.

Practically, these indicators reflect the ability of companies for financial planning and making suitable decision concerning investment optimally in net working capital which leads to profitability. On the other hand, the financial management, theoretically, is still a matter of discussion and interest by researchers since it began in the middle of the 20th century till now due to its vital role in improving profitability.

More specifically, and from the reviewing previous studies there is no past studies conducted to found the relationship between net working capital and profitability measured by (net operating income, profit margin and return on assets). Accordingly, the current study attempts to identify the relationship between net working capital and profitability on industrial companies sector.

4. Significance of the Study

The significance of the study is demonstrated in the following points:

A. The importance of the net working capital that is reflected on the profitability of the listed industrial companies in the Amman Stock Exchange during the period under study.

B. This study is an attempt to find a relationship between the different variables which are the net working capital and profitability measured by the net operating income, profit margin and the return on assets since these variables work to redirect money towards investment opportunities to positively cause profitability of company.

C. The importance of using the results of this study in Jordan (as a developing country), and therefore attract investments that enhance the activity of the Amman Stock Exchange, As well as its importance to market participants such as investors, shareholders, brokers, creditors and others.

5. Research Hypotheses

The current study aimed to testing the relationship between net working capital and profitability on Jordanian industrial sector. Therefore, the researcher formulates the hypothesis of study as follows:

H0: There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies. Based on this hypothesis, the following sub-hypotheses are derived:

H0-1: There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies whereas that profitability is measured by the net operating income.

H0-2: There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies whereas that profitability is measured by the profit margin.

H0-3: There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies whereas that profitability is measured by the return on assets.

6. Research Methodology

The current study uses the descriptive and analytically methodology by using the indicator of the net working capital and indicators of profitability.

6.1 Population and Sample Study

The populations of study are all industrial companies listed in Amman Stock Exchange in period between 2009-2017. In addition to, the study sample included 26 companies were chosen to be the sample of the study under the following conditions:

A. Availability of all required data to examine the variables.

B. No merger process occurred.

C. The fiscal year ends in 31st of December.

D. Availability of the financial reports for all companies.

6.2 Data Collection

In the current study, a plethora of books, research papers, articles, theses that relate to the topic of this study, the annual financial reports of companies under study, the reports and briefs issued by Amman Stock Exchange are adopted as sources of data.

6.3 Model of Study

The following model is adapted to present the specific views of the problem and its features concerning the relationship between the net working capital and profitability. Nufazil (2018) and Sheikh, et al (2016) were used to deal with the independent variable, while Kaddumi and Ramadan (2012) were adapted to study the dependent variables. Figure 1 below illustrates this relationship:

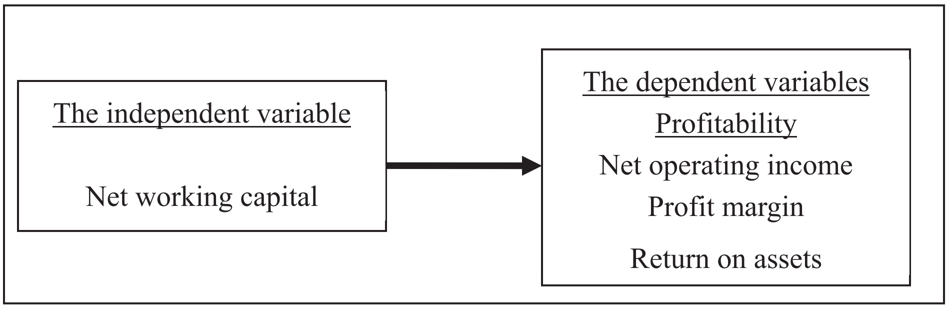

Figure 1. Model of Study

*Source: prepared by the researcher based on previous studies and theoretical.

6.4 Variables of Study

The variables of study were measured according to the following:

I. The Independent Variable:

The independent variable was measured according to the following: (Ross, et al, 2003; Gitman and Zutter, 2012)

A. Net working capital: it is the difference between the current assets and current liabilities as presented in this formula:

Net working capital= current assets – current liabilities

II. The Dependent Variables:

The dependent variables are the indicators of profitability i.e. the net operating income, the profit margin and the return on assets. They are measured as follows:

A. Net operating income: It is measured by calculating the gross profit minus the general and administrative expenses minus selling and distribution expenses. It is presented in the following formula :(www.ase.com.jo)

Net Operating Income= Gross Profit - General and Administrative Expenses-selling and Distribution Expenses

B. The profit margin: It is calculated by the net income divided by the sales (Brealey, et al, 2011; Lee and Lee, 2006). This is presented in this formula:

Profit margin= net income ÷ sales

C. The return on assets: It is the net income after tax divided by total assets (Andrew, 2006). It is shown in this formula:

Return on assets= net income after tax ÷ total assets

7. The Statistical Analysis

7.1 The Descriptive Analysis

The second table shows the descriptive analysis for the variables of the study. It illustrates the Median and the standard deviations for all variables.

Table 2. Descriptive Analysis for the Variables of the Study

	NWC	NOI	PM	ROA
Median	3274827	573258	2.814	0.025
Maximum	490059000	303513000	362.1614	0.6
Minimum	-27315273	-43653000	-7413.135	-1.952
Std. Dev.	8273592	3975203	489.9	0.168
Probability	0	0	0	0
Observations	234	234	234	234

NWC: Net working capital, NOI: Net Operating Income, PM: Profit Margin, ROA: Return On Assets

The Median (M) of the independent variable that measured by the net working capital is 3274827 JD with standard deviation (Std. Dev) of 8273592 JD. This is due to the difference in the sample under study in terms of size and age of company.

More to add, the Median of the dependent variables, measured by the net operating Income, profit margin and return on assets, are respectively 573258 JD, 2.814 and 0.025, while the (Std. Devs) are respectively 3975203 JD, 489.94 and 0.168. The Std. Dev of the net operating income refers to the difference in the sample of study in the general and administrative expenses, selling and distribution expenses which the company takes responsibility for. This difference might be due to the difference in the technology used for the productivity process.

However, the profit margin and the return on assets indicate that the net operating incomes of the sample of study are varying because of difference of the efficiency in the operational and investment process which affects the profitability.

7.2 Results of Testing Hypotheses and Discussion

The main hypothesis of the study is: There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies.

According to the results illustrated in Table 3 below, the study finds that there is a relationship between the net working capital and the profitability that is measured by the net operating income, the profit margin and the return on assets.

Table 3. Results of Testing the Main Hypothesis Dependent Variable: Profitability

Method: Panel ELS Least Squares,	Sample: 2009- 2017,	Cross-sections 26,	observations: 234
Variables	Coefficient	T-Test	P- Value(Probability)
Net Working Capital	.545	9.905	0000
(R^2) = 54%			
DW = (1.86)			
F = 98.103			
Sig = 0.000			

The third table shows a positive relationship between the net working capital and profitability since calculated F value (98.103) is more than the tabulated value of F (2.60) at ($\alpha \geq 0.05$). Moreover, the value of Durbian-Watson test (1.86) indicates that there is no autocorrelation between the errors in the regression equation within the acceptable limits for this test. Thus, according to the calculated T-test value (9.905) which is more than T-tabulated value (1.960), the study reveals not to accept the null hypothesis (H0) and accept the alternative hypothesis, which states that there is a positive relationship between the net working capital and profitability whereas that profitability is measured by the net operating income, the profit margin and the return on assets.

Additionally, the Table shows that the value of the coefficient of determination (R2) is (0.54) which means that the net working capital explains 0.54 of change in profitability; this result clarifies the significance of the net working capital for the industrial Jordanian companies' incomes.

The First Sub-hypothesis (H0-1): There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies whereas that profitability is measured by the net operating income.

The forth table below illustrates the results of testing the first sub-hypothesis by calculating Durbin-Watson test value and T-test value.

Table 4. Results of Testing the First Sub-hypothesis Dependent Variable: Net Operating Income

Method: Panel ELS Least Squares,	Sample: 2009- 2017,	Cross-sections 26,	observations: 234
Variables	Coefficient	T-Test	P- Value(Probability)
Net Working Capital	.864	26.123	0000
(R2) = 86 %			
DW = (1.36)			
Probability = 0.0000			

The forth table shows that Durbin-Watson value of the relationship between the net working capital and profitability measured by the net operating income is 1.36, this means there is no autocorrelations between the errors in the regression equation; they are within the acceptable limits. Therefore, the results of T-test refer not to accept the null sub-hypothesis (H0-1) and accept the alternative sub-hypothesis, which states that "there is a relationship between the net working capital and profitability whereas that profitability is measured by the net operating income".

As the calculated value of T-test (26.123) is more than the tabulated value of T-test (1.960), this means there is a direct relationship between the net working capital and profitability of companies measured by the net operating income. However, the value of coefficient of determination (R2) = (0.86) means that the net working capital is able to explain 0.86 of change occurred in the net operating income; this result demonstrates the importance of the net working capital for the net operating income of the industrial Jordanian companies.

The Second Sub-hypothesis (H0-2): There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies whereas that profitability is measured by profit margin.

The fifth table below revealed the relationship between the net working capital and profitability that is presented by profit margin.

Table 5. Results of Testing the Second Sub-hypothesis Dependent Variable: Profit Margin

Method: Panel ELS Least Squares,	Sample: 2009- 2017, Cross-sections 26,		observations: 234
Variables	Coefficient	T-Test	P- Value(Probability)
Net Working Capital	-.020-	-.311-	0.75
(R^2) = 10%			
DW = (2.004)			
Probability = 0.75			

Based on the result of Durbin-Watson test (2.006), the study reveals that there is no autocorrelations between the errors in regression equation which leads to accept the null sub-hypothesis (H0-2) that states there is no relationship between the net working capital and profitability measured by the profit margin since the calculated value of T-test is (- 0.311) is less than the tabulated value of T-test (1.960). On the other hand, the coefficient of determination (R2) = (0.10) seems unable to explain the reason of change of profitability due to the profit margin; other factors may explain 0.90 of this change.

The Third Sub-hypothesis (H0-3): There is no statistically significant relationship at ($\alpha \geq 0.05$) between the net working capital and the profitability of companies whereas that profitability is measured by the return on assets.

The results of examining the relationship between the net working capital and profitability measured by the return on assets are illustrated in the sixth table below.

Table 6. Results of Testing the Third Sub-hypothesis Dependent Variable: The Return on Assets

Method: Panel ELS Least Squares,	Sample: 2009- 2017, Cross-sections 26,		observations: 234
Variables	Coefficient	T-Test	P- Value(Probability)
Net Working Capital	.193	3.003	0.003
(R^2) = 20%			
DW = (1.71)			
Probability = 0.003			

According to Table 6, the results reveal a relationship between the net working capital and profitability measured by the return on assets; this means not accept the null sub-hypothesis (H0-3) and to accept the alternative sub-hypothesis, which refers to the existence of this relationship. The results also demonstrate that the calculated value of T-test (3.0003) is more than the tabulated value of T-test (1.960). However the coefficient of determination is about (0.20); this means (0.80) of occurred change in profitability might be due to other factors not the return on assets. On the other hand, the value of Durbin-Watson test is (1.71) which refers to non-existence of the autocorrelation between the errors in the regression equation which stayed within the acceptable limits of this test.

Through the results reached we see that the investment in net working capital is a positive value for the company, and that there is a strong and positive relationship between net working capital and profitability, through which companies can increase their profits, which is an important part of the company operating, financing and investment policy:

Operationally: if working capital is not available, the company will not be able to increase production to a certain level of sales.

Financially: If there is a shortage of net working capital, it will negatively affect the solvency.

In terms of investment: When working capital is run down, this will increase the cash flow and thus increase the profits.

The findings of the study agree with some the results of the previous studies such as (Popescu and Pirvutoiu, 2009), (Qazi et al, 2011) and (Raheman and Nasr, 2007).

8. Conclusions and Recommendations

The study comes out with the following conclusions:

1. Net working capital is an important part of the company operating, financing and investment policy.
2. The net working capital is considered as a main factor in making financial decisions by redirecting it in the investments that cause positive profitability of companies.
3. There is a positive relationship between the net working capital and profitability; hence profitability is measured by net operating income and return on assets.
4. There is no relationship between the net working capital and profitability; hence profitability is measured by profit margin.

In light of the results of this study, it is recommended to:

1. Pay deep attention on the mechanism of investing the net working capital by selecting prosperous opportunities that make greater incomes for companies.
2. Select efficient people who have good experience in internal and external investments to increase the market share; this may help increase the return on assets and profit margins of sales.
3. Bear into consideration the indicators of profitability by Company Control Department while evaluating the companies.
4. Study, in the future, the field of net working capital and profitability as follows:

   A- To conduct this study with different indicators like liquidity and market indicators.

   B- Adding other variables to be as control or moderator variables.

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Fiscal Devolution and Human Capital Formation in Nigeria: Emphasis on Independent Generated Funds of the Three Tiers of Government

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Abstract

The benefits of human capital in a nation are enormous and all encompassing. This study investigates the impact of independent generated revenue of the three tiers of government in Nigeria on human capital formation from 2003 to 2017. The purpose is to determine the effect of internally generated revenue of each level of government on human beings in the country. Revenue powers of three tiers of government in Nigeria are the product of fiscal decentralization being practiced in the country. Thus, Ordinary Least Square technique has been employed to perform the multi-regression analysis using Statistical Package for Social Sciences (SPSS) version 20. The findings indicate that federal and local governments' independent generated funds do not have significant positive impact on human capital development while the state government independent generated revenue exerts significant positive influence on human development index used as proxy for human capital formation in Nigeria. Therefore, the study recommends among others that the three levels of government in the country should strive harder to boost independent revenues for more adequate investment in human capital of the nation.

Keywords: fiscal decentralization, human capital formation, internally generated revenue, three tiers of government, Nigeria

JEL Classification: I31, H71, H77

1. Introduction

Fiscal decentralization has given credence to devolution of revenue raising powers as well as spending responsibilities to sub-national governments (Sarkar, 2000). Scholars such as (Bahl & Linn, 1992; Bird & Wallic, 1993) advocated fiscal decentralization because they held that it enhances public service delivery and improves efficiency in the public sector. It enables the government to provide public services speedily and in a more efficient and desirable manner (Soejoto, Subroto & Suyanto, 2015). Fiscal decentralization is the delegation of economic or monetary functions to the lower level governments from the government at the top (Rauf, Khan, Ali, Qureshi, Ahmad & Anwar, 2017). It is believed that economic devolution encourages accountability and transparency at all levels of government and public administration (Gogoi, 2017) and it is trusted to be a solution to all kinds of economic and political challenges facing developing countries despite its inherent glitches (Jumadi, Ghozali & Khusaini, 2013).

Although, fiscal decentralization is generally understood to be a means by which all levels of government in a country deliver better services to citizens, yet Yasemin (2016) argues that fiscal decentralization and other forms of devolution of power are capable of preventing the government at the center from ensuring that revenues are evenly distributed among different tiers of government in a country. Yasemin (2016) made this discovery during his study in Spain where he deduced likely unwillingness on the part of the central government to implement policies that tend to minimize inequalities caused by division of revenue powers.

In Nigeria fiscal decentralization is practiced through the division of taxing powers and spending obligations among the three tiers of government. The revenue powers of the three levels of government in Nigeria are stipulated in the second schedule part II of the 1999 Constitution of the Federal Republic of Nigeria (FRN). The purpose of the division of these taxing powers among the three tiers of government is to exploit resources for proper public service delivery in the country. Human capital formation is the major aspect of public service delivery the independent revenues generated by the three tiers of government are meant to address in all earnest. This is because the quality of human capital a nation has determines its rapid growth socially and economically. The economic strength of Nigeria relies on the ability of the country to raise health human capital with the knowledge and expertise to ensure that the nation's economy meets the global standard of poverty management and reduction.

If government's budget on education, health and infrastructures that aid human capital development in Nigeria is critically evaluated, it will be fair to assert that the government has made some reasonable efforts. Some of the commendable efforts the government has made to develop human capital in the country is the provision of Tertiary Education Trust Fund (TETFUND) for infrastructural development in the government owned Universities, Polytechnics and Colleges of Education. Research grants are also given to Academic workers to carry out researches, publish journals and books. However, the crucial needs in the education and health sectors in the country deserve more government interventions and attention. The role of independent generated funds of the three tiers of government in affecting human capacity building in Nigeria is what this study is targeted to establish.

1.1 Objective of the Study

The general objective of this study is to determine the impact of independent generated revenue on human capital formation in Nigeria.

The specific objectives are:

1. To examine the impact of federal government independent revenue on human capital development using human development index (HDI) as proxy.
2. To assess the effect of state government independent revenue on HDI.
3. To evaluate the influence of local government independent revenue on HDI.

1.2 Hypotheses

The following study hypotheses have been formulated to achieve the above specific objectives:

Ho1: Federal government independent generated revenue does not have significant influence on

Human capital development (HDI) in Nigeria.

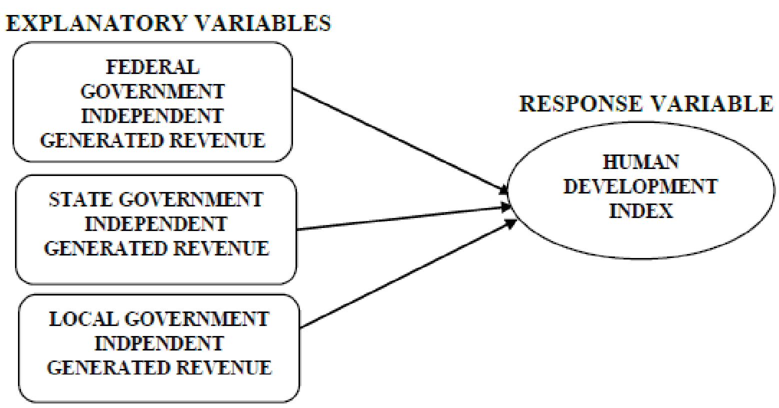
Ho2: State governments independent generated revenue does not significantly affect HDI.

Ho3: Local government independent generated revenue does not significantly influence HDI.

2. Literature Review

2.1 Conceptual Framework

The Figure 1 below depicts the conceptual framework of the study. It shows the fiscal decentralization practiced in Nigeria with emphasis on revenues generated by the three tiers of government and the impact on human capital development represented by human development index.



Source: Author's desk research, 2019.

Figure 1. Independent Generated Revenue and Human Development Index

2.1.1 Independent Generated Revenue (IGR)

Abiola and Ehigiamusoe (2014) defined IGR as the revenue that the Federal government, State governments and Local government Councils generate within their areas of jurisdiction. Independent generated revenue in Nigeria are those non-oil sources of government revenue produced by the federal, states and local government councils which aid the enlargement and expansion of the entire non-oil revenue structure of the nation (Oti & Odey, 2017). Therefore, independent generated revenue is defined as the funds generated by the effort of different levels of government within their territory and confines allowed by the law and constitution of the country. Some revenue sources are not independently managed but are wholly owned by the federation; therefore, the extent to which the law of a nation allows each level of government to control resources will be the level of its operation.

2.1.2 Fiscal Decentralization and Human Capital Development

Fiscal decentralization implies freeing certain governing capabilities to the elected bodies at local level within the confines of the law including the opportunity to establish taxable level for collection of some specific local taxes, as well as the right of use of the revenues according to the needs of the respective communities (Dragusha & Osmani, 2012). In addition, Ocheni and Agba (2018) posit that fiscal decentralization is the transfer of monetary authority and responsibilities from the Central government to other levels of government for the purpose of improving public service delivery, encouraging economic growth, prompting human capital development and increasing actual infrastructural development. Harbison (1973) describes human capital formation as the increasing and acquiring of a good number of healthy individuals who have the required expertise, capability, training, as well as understanding which are important for economic growth and expansion. Therefore, human development index (HDI) is the tool used by the United Nations Development Program (UNDP) to measure economic development of a nation using parameters such as: life expectancy, education and national income which is the standard of living (UNDP, 2018). Lin (2018) submits that the major issue with HDI is its failure to take into cognizance of the disparity among persons as well as the collective benefits and drawbacks in all areas of human endeavor. Ocheni & Agba (2018) maintain that fiscal decentralization that will produce the desired sustainable economic development of a nation in the area of public service delivery and efficiency in resource allocation should have human capacity building as a focus.

2.2 Theoretical Framework

The theoretical backing for this study is the Fiscal Decentralization Theory pioneered by Oates (1972) and supported by so many other scholars among them are (Bahl & Linn, 1992; Bird & Wallich, 1993). Fiscal decentralization theory states that revenue powers and spending responsibilities should be divided between the central government and the lower governments for the purpose of proper delivery of public goods and services. Proponents of this theory amplified it by submitting that local governments are closer to the people and understand their needs than the central government and so substantial revenue powers should be given to the lower governments to carry out expenditure responsibilities in their domain. Economic regionalization is also understood to be a transformation platform to improve public sector productivity, attract healthy competition among states and local governments in the area of public service delivery that boost human capital development for economic growth (Bahl & Linn, 1992; Bird & Wallich 1993). It is a system where government structure allows responsibilities, functions and resources to be shared between the higher and the lower government levels. The major aim of decentralizing revenue generation and expenditure responsibilities is to improve the efficiency of the public sector, eliminate the budget shortfalls, and develop human capital which promotes economic growth (Bird, 1993; Bird & Wallich, 1993; Bahl & Linn, 1992; Gramlich, 1993 and Oates, 1993). Despite the potential challenges of fiscal decentralization it helps to increase economic efficiency because local governments are better positioned than the central government to deliver public services that match local preferences and needs of the human beings in the country (Oates, 1972).

2.3 Empirical Review

Rashid and Saqid (2010) used econometric time series technique to analyze the relationship between human development and fiscal decentralization in Pakistan. The aim of the study was to establish the channels through which decentralization stimulates the pace of economic growth and influence the provision of health and education facilities across the Pakistan Provinces. The study established a long-run relationship between fiscal decentralization and human development. The findings also revealed that fiscal decentralization promoted human development and encouraged peaceful co-existence among the provinces in Pakistan.

Jumadi *et al.* (2013) carried out a study using panel data of 29 districts and 9 cities in East Java Province of Indonesia from 2007 to 2010. The aim of the study was to determine the effect of fiscal decentralization on various economic indices including human development. The findings revealed among others, that fiscal decentralization impacted positively and significantly on human development and physical development. On the other hand, the study also indicated that human development and physical development had positive and significant influence on local economic growth in Indonesian districts and cities.

Soejoto *et al.* (2015) made use of theoretical and empirical literatures in the analysis of fiscal decentralization policy in promoting Indonesia human development. The study found that decentralized revenue had positive impact on human development due to the improvement on public service delivery and economic growth which in general led to reduction in poverty level in the country.

Udoh, Afangideh and Udeaja (2015) applied Autoregressive Distributed Lag (ARDL) approach to assess the impact of fiscal decentralization on human resource development in Nigeria from 1980-2012. The findings revealed that expenditure decentralization exerted negative effect on human resource development.

Iftikhar (2016) did a cross-country study using 62 countries to investigate the effects of fiscal decentralization on the education sector. Though the study revealed that teaching quality was not maintained despite the tendency of sub-national governments to increase funds allocated to education, all the same, there was evidence of positive effect on local social needs.

Rauf *et al.* (2017) employed annual time series data from 1972-2009 to examine the effect of fiscal decentralization on education sector in Pakistan. Using education as proxy for public service delivery, the study found support for fiscal decentralization theory that devolution of expenditure responsibilities among all levels of government advances public service delivery because school enrollment in Pakistan generally improved as economic regionalization is being implemented.

Gogoi (2017) made use of human development index of 2011 and devolution index of 2009 to assess the impact of fiscal decentralization on human development in a comparative study of Assam with other states in India. The study found a moderately positive relationship of 38% which indicated that the human development in Indian states could not promptly respond to the fiscal decentralization outcomes evidenced by developmental economic and social changes in India.

Shelleh (2017) employed a panel data of 31 developing countries from 1984-2012 to examine the impact of fiscal decentralization on three indicators of institutional quality which he identified as: democratic accountability, corruption, law and order. The study revealed that, expenditure decentralization promoted institutional quality while the revenue decentralization weakened the system.

2.4 Research Gap

Studies on fiscal decentralization are numerous, though the selected studies reviewed above were carried out in different countries and on different areas of power devolution, but this study tries to carve a niche by filling a gap in the area of impact analysis of independent generated revenue of the three levels of government on human development in Nigeria. The revenue power of the three tiers of government in Nigeria is a product of fiscal decentralization practiced in the country. However, the effect of these taxing powers on human beings that determine economic growth in the country has been scarcely verified, hence the study is motivated to provide an empirical evidence in this area.

3. Methodology

This study employs an ex-post facto research design which involves using secondary form of data that are not under the control of the researcher. The dependent variable is the Human Development Index (HDI) used as proxy for human capital formation in Nigeria. The data on HDI were collected from the United Nations Development Programme (UNDP) reports. The independent variables include: federal government independent generated revenue (FIGR), State governments independent generated revenue (SIGR) and local governments independent generated revenue (LIGR).

The data on FIGR were extracted from Central Bank of Nigeria (CBN) annual reports as captured under the fiscal policy while the data for SIGR and LIGR emanated from CBN Statistical Bulletin, 2017 edition. In order to achieve uniformity of the data sets, all the data were expressed in a logarithm formula except the HDI which were already stated in a logged form. The data were analyzed with Statistical Package for Social Sciences (SPSS) version 20. All the hypotheses for this study are null hypotheses and the rejection criterion is that if the p-value is less than 5%, Ho is rejected and if the p-value if greater than 5% level of significance Ho is accepted.

The multiple regression model adopted is:

$$HDI = \beta 0 + \beta_1(LOGFIGR) + \beta_2(LOGSIGR) + \beta_3(LOGLIGR) + \varepsilon$$

Where,

HDI = Human Development Index

FIGR = Federal Government Independent Generated Revenue

SIGR = State Government Independent Generated Revenue

LIGR = Local Government Independent Generated Revenue

$\beta0$ = Constant

β_1-β_3= Regression Coefficients

ε = error term

A Priori economic expectation:

$\beta_1, \beta_2, \beta_3 > 0$

The a priori economic expectation is that FIGR, SIGR and LIGR should be greater than zero signifying positive impact on HDI.

4. Data Analysis and Interpretations

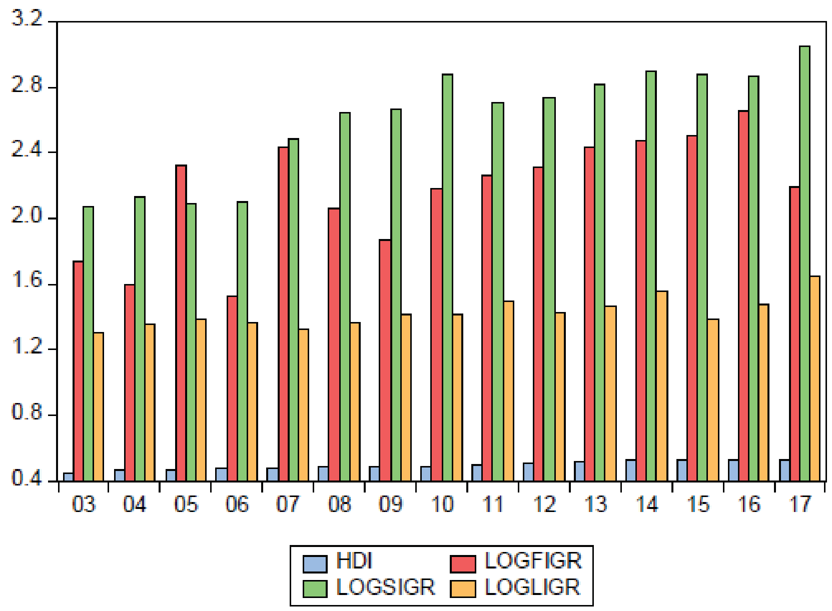


Figure 2. Trend of IGR and HDI in Nigeria from 2003-2017

SOURCE OF DATE: CBN STATISTICAL BULLETIN, 2017 EDITION AND UNDP, 2018.

Figure 1 above shows the trend of independent revenue generated by the three tiers of government in Nigeria and the human development index from 2003-2017. The figure 1above shows that the SIGR progressed more than the other explanatory variables, followed by the FIGR and finally the LIGR. The policy and economic implication is that the three levels of government in Nigeria need to strive harder to generate revenue independently to boost human capital capacity in the country. The undue dependence on allocation from the federation account should be curtailed to ensure that the maximum benefit of fiscal decentralization in the area of revenue and public service delivery is realized in all areas of human lives in the country.

Table 1. Model Summary Of Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.912	.832	.786	.012910664	1.824

a. Predictors: (Constant), LOGLIGR, LOGFIGR, LOGSIGR
b. Dependent Variable: HDI

Source: Author's computation, 2019.

Table 1 above gives the summary results of the model applied in this study. R is the correlation coefficient which measures the strength of linear relationship between two variables, therefore the closer the value to 1.0 or -1.0, the stronger the association between the two variables (Gujarati & Porter, 2009:20). The value of R which signifies the correlation between the dependent and the independent variables is 91.2%. It shows the existence of a strong and positive relationship between the explanatory variables (FIGR, SIGR and LIGR) and the response variable (HDI).

R Square is the coefficient of determination which represents the square value of the R, which is the correlation value. It shows the extent to which the independent variables account for the variation in the depend variable (Gujarati & Porter, 2009:493). From table 1 above it can be observed that the R^2 has the value of 83.2% which is very substantial. Therefore, it indicates the magnitude of the variation in HDI that independent variables can explain, while the remaining 12.8% is attributable to other factors that were not included in the model. Adjusted R^2 shows the increase on R square caused by the total sum of independent variable.

Serial correlation also known as autocorrelation is the degree of a relationship between the error terms (Gujarati & Porter, 2009: 412). Durbin-Watson test is used to test autocorrelation, and holds that values approaching 0 indicate positive autocorrelation, and values toward 4 indicate negative autocorrelation (Gujarati & Porter, 2009: 434-435). However, values under 1 or more than 3 are a definite cause for concern (Durbin & Watson, 1950, 1951; Field, 2009). The Durbin-Watson of this study is 1.824 which is approximately 2 indicating absence of serial correlation in the regression results and also satisfies the basic assumption of regression models that the error terms are independent (Australian Property Institute, 2015:487).

Table 2. ANOVA test results

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.009	3	.003	18.169	.000
	Residual	.002	11	.000		
	Total	.011	14			

a. Dependent Variable: HDI

b. Predictors: (Constant), LOGLIGR, LOGFIGR, LOGSIGR

Source: Author’s computation, 2019.

F-test is a test to establish the overall significance of the estimated regression analysis. It indicates the significance of the coefficients in the model for the number of independent variables used in the analysis (Gujarati & Porter, 2009:240-242). Therefore, the F-statistics in this study is 18.169 with the p-value of $0.000 < 0.05$ level of significance. This result shows that the value of F is statistically significant and the model is suitable for the study. Thus, the implication is that the independent variables (FIGR, SIGR and LIGR) jointly influence HDI positively and significantly.

Table 3. Regression Correlations and Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.223	.058		3.861	.003
	LOGFIGR	.018	.014	.229	1.365	.199
	LOGSIGR	.043	.018	.529	2.407	.035
	LOGLIGR	.084	.055	.275	1.529	.155

a. Dependent Variable: HDI

Source: Author’s computation, 2019.

The regression result of the model from table 3 above is a follows:

HDI = 0.223 + 0.018FIGR + 0.043SIGR + 0.084LIGR.

The t-test on table 3 above is used to determine the acceptance or otherwise rejection of the null hypotheses earlier formulated.

HYPOTHESIS I

Ho_1: Federal government independent generated revenue does not have significant influence On Human capital development (HDI) in Nigeria.

The result on table 3 above indicates that FIGR t-test is 1.365 and the p-value is $0.199 > 0.05$ level of significance. This result shows that FIGR does not have significant positive impact on HDI, therefore, Ho_1 is accepted and the alternative which suggests otherwise rejected. The result of this current study agrees with the findings of Shelleh (2017) but conflicts with the results of (Rashid & Saqid, 2010; Jumad *et al.,* 2013; Soejoto *et al.,* 2015) who found evidence that fiscal decentralization influences human capital development positively and significantly.

HYPOTHESIS II

Ho_2: State governments independent generated revenue does not significantly affect HDI.

SIGR t-test is 2.407 with the p-value of $0.035 < 0.05$ significance level. This result implies that SIGR have significant and positive impact on HDI, therefore, Ho_2 is rejected and the alternative established. The result of SIGR is in line with the findings of (Rashid & Saqid, 2010; Jumad *et al.,* 2013; Soejoto *et al.,* 2015) but disagrees with Shelleh (2017) who found that revenue fiscal decentralization deteriorated institutional quality of 31 developing countries studied.

HYPOTHESIS III

Ho_3: Local government independent generated revenue does not significantly influence HDI.

The result on table 3 above shows that LIGR t-test is 1.529 and the p-value is $0.155 > 0.05$ level of significance. This result shows that LIGR does not have significant positive impact on HDI, therefore, Ho_3 is accepted and the alternative which suggests otherwise declined. The regression result for LIGR agrees with the findings of Shelleh (2017) but conflicts with the results of (Rashid & Saqid, 2010; Jumad *et al.,* 2013; Soejoto *et al.,* 2015) who found evidence that fiscal decentralization influences human capital development positively and significantly.

5. Conclusion and Recommendations

5.1 Conclusion

The regression result of this study shows that federal government independent revenue effort is not sufficient to match with the spending responsibilities of the federal government on human capacity building outside the statutory allocation. In other words, it is evident that statutory allocation is heavily relied upon to shoulder federal government share of expenditure obligations on human capital development in the country. Besides negligence of human capital formation on the part of the federal government, this situation is also as a result of revenue leakages and corruption in the public sector preventing the flow of revenue into the federal government account. Although, the Treasury Single Account (TSA) was initiated in 2015 to curb this menace in the public sector administrative process, however, it is obvious that revenue leakages still occur.

5.2 Recommendations

Therefore, the study is recommending that all channels through which revenues are diverted for personal and selfish use of public officers should be checked and blocked. The federal government should consider human capital development as a major economic growth element to be encouraged.

There is a statistical evidence from the study that state governments' independent revenue influences human capital development in the country. This is a move in the right direction. However, the study recommends more revenue generation effort to cope with the pressing needs of human capital formation in the states, because there are states in Nigeria where majority of the youths are school drop outs coupled with high rate of illiteracy. Therefore, every state in the federation should work harder to develop the human beings for proper economic expansion in the country.

LIGR did not meet the a priori economic expectation, as a result, the study also recommends rigorous move to exploit all revenue opportunities in the local government areas and within the ambit of the law and constitution. If these resources are well harnessed, they will help to improve the local needs of people and encourage more skill acquisition among jobless youths and women.

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Empirical Investigation of the Factors Affecting Micro, Small and Medium Scale Enterprises Performance in Borno State, Nigeria

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Abstract

Past studies have documented the relevance of strong industrial base to economic development. Although several measures have been put in place to develop the industrial sector, the performance of Micro, Small and Medium Scale Businesses (MSMEs) leaves much to be desired. This study examines socio-economic factors affecting Micro, Small and Medium Scale Enterprises Performance in Maiduguri Borno State, Nigeria. Data was generated from a survey of 84 Micro Small Medium Enterprises operators in Maiduguri and analyzed with the aid of Statistical Package for Social Sciences (SPSS) version 23. Descriptive and Inferential Statistics were used to analyze the data collected. The results from the Exploratory Factor Analysis, Correlation and Multiple Regression Analysis show that insecurity and inadequate infrastructural facilities are the most significant factors affecting MSMEs performance in Borno state. The study therefore recommends that government should provide better security and improve infrastructural facilities such as power supply in order to enhance MSMEs performance.

Keywords: infrastructure, performance, insecurity, training, government policies, MSMEs

1. Introduction

Micro, Small and Medium Scale Enterprises (MSMEs) make up about 95% of the manufacturing industries in Nigeria (Ogunleye, 2004). Yet, unlike the developed economies, MSMEs contribute very little in terms of output, exports and employment, in Nigeria. This may perhaps be due to differences in business environments, social, economic, cultural and legal factors that influence the operations of MSMEs. There are several challenges arising from these factors such as increased risk, cost of business, and difficulty in taking decisions and delay in business transactions for Nigerian business entrepreneurs (KPMG, 2012). In addition, indices from the Doing Business Index (DB) shows that MSMEs in Nigeria encounter several challenges in undertaking commercial activities. This implies that there are peculiarities in socio-cultural factors in the country that inhibit transfer of management practices from other countries. Furthermore, Majority of Entrepreneurs in Africa are MSME owners who face challenges in sustaining their trades and imbibing new technologies for enhanced performance and growth (OCED, 2009). Other reports suggest that African entrepreneurs focus mainly on local market without exploring other avenues for long- term advancement and expansion (Beyene, 2002).

The number of MSMEs in Nigeria has been on the rise for several reasons. Firstly, MSMEs require less capital, manpower, technical know-how and managerial skill to start. Secondly, they create employment opportunities to their immediate environments by utilizing local material and human resources thereby promoting economic growth and industrialization. Several studies have also documented the relevance of MSMEs in various developed and emerging economies. For instance, Fan (2003) reported that MSMEs account for 55% of the gross domestic product of high income countries and 60% of that of low income countries. Ariyo (2006) noted that MSMEs were also engaging more than 65% of the workforce in high income countries and more than 70% workforce in low income countries. Rajesh, Suresh and Deshmukh (2008) assert that MSMEs are the pillar for sustainable economic growth in all countries. Micro, Small and Medium Scale businesses play a significant role in the industrial development of any nation. Over the years, Nigeria has experienced a rise in the level of unemployment which has had an adverse effect on the economic development of the nation. However, with the rapid growth of MSMEs and diversification of businesses, more youths have been engaged and acquired skills for entrepreneurship. The General Statistics Office (2007) reports that MSMEs are integral to Nigeria's economic growth because they make up 97% of industrial companies. The establishment and growth of MSMEs has also been linked to reduction in poverty and economic dependency. Lalkaka (1997) stated that MSMEs are regarded as vital for economic growth, source of employment and a means to poverty eradication. MSMEs also help to ensure efficient allocation of human and material resources in the country by reducing wastages and underutilization of local resources. This has in turn will lead to economic development of the nation.

Despite these assertions, Agwu and Emeti (2014) note that MSMEs performance has generated a lot of scholarly attention because they have not yielded the expected benefits in recent years. In addition to other challenges encountered in other states, Tahir and Usman (2018) have reported that entrepreneurs in Borno state particularly face enormous challenges that have been compounded by the Boko Haram insurgency and insecurities abound. It is therefore very important to examine the peculiar challenges hampering performance of MSMEs in Borno state, Nigeria. In this regard, the study seeks the following objectives:

i. Examine the effect of Infrastructural facilities on the performance of MSMEs in Borno state, Nigeria
ii. Assess the influence of insecurity on the performance of MSMEs in Borno state, Nigeria
iii. Examine the impact of government policies on MSMEs performance in Borno state, Nigeria
iv. Investigate the effect of training on the performance of MSMEs in Borno state, Nigeria

Borno state is strategically located in the Northeast of Nigeria bordering Chad, Niger and the republic of Cameroon making it best fit for cross border trade among these three countries. MSMEs in Borno state are better placed to explore these trade advantages and boost the economy of the state and Nigeria in general. Understanding these challenges will not only enhance MSMEs performance, it will also boost economic activities and provide gainful employment to the youths. The study results are also expected to assist in developing viable suggestions and alternatives on how to address the factors affecting MSMEs performance in Nigeria in general, and Borno state in particular. The remainder of this paper is organized into five sections; Literature Review, Research Framework, Methods, Results and Discussions and Conclusions.

2. Literature Review

2.1 Micro, Small and Medium Scale Enterprises

According to National Policy, Micro, Small and Medium Enterprises (MSMEs) can be categorized according to size, sector, organization, technology and location. In fact, the definition of MSMEs differ across countries, economies, agencies and sectors even though all encompass three distinct groups; micro, small and medium scale businesses (Lucky & Olusegun, 2012). For instance, while Britain, the United States and some European countries define small-scale enterprises in relation to sales and number of employees, MSMEs in Nigeria are defined in relation to capital employed, turnover and number of employees (Gbandi & Amissah, 2014). Oboniye (2013) defines MSME as any business that employs less than 50 persons and has capital less than ₦500,000. According to the Central Bank of Nigeria (CBN, 2004), MSMEs refer to businesses having total cost plus working capital ranging from ₦l,000,000 to ₦10,000,000. The Nigerian Industrial Development Bank (NIDB) describes MSMEs as enterprises having capital and project cost of ₦750,000.00. Conversely, The National Economy Reconstruction Fund (NERFUND) define MSMEs as companies having fixed assets and investment costs of up to ₦10,000,000 or less. This study defines MSMEs in line with NERFUND as any enterprise that has capital investments of up to ₦10,000,000 or less.

2.2 Micro Small and Medium Enterprises Performance

Performance can be defined in various contexts depending whether objective (quantitative/financial) or subjective (qualitative/non-financial) measures are used. Financial performance measures organizational effectiveness using yardsticks of profitability such as Return on Assets (ROA), Return on Equity (ROE), Net Profit or Gross Profit (Parker, 2000). Non-financial performance measures relate to qualitative effectiveness such as growth, expansion, efficient service delivery, product quality, survival and competitiveness (Dobbs & Hamilton, 2007). According to Sandberg, Vinberg and Pan (2002) MSMEs performance refers to their ability to generate wealth and jobs through business start-ups, growth, survival and expansion. This is because overall performance of the organization is dependent on good management (Gibcus & Kemp, 2003). In addition, measuring MSMEs performance can help identify their strengths and weaknesses in the light of existing results (Eniola & Entebang, 2015). Past studies on MSMEs have used various measures of performance such as financial, non- financial or a combination of both. However, this study will employ non-financial (qualitative) measures because majority of MSMEs owners do not disclose financial information. This also follows Ladzani and Seeletse, (2012) who noted that MSMEs financial information is generally sensitive and not disclosed by owners. As such, this study employed statements related to other qualitative aspects of performance to elicit information from MSMEs owners and managers.

2.3 Infrastructural Facilities and MSMEs Performance

Infrastructure refers to the basic facilities and equipments required for the smooth running of the general public. According to Srinivasu and Rao (2013) infrastructure refers to the amenities through which products and services are provided to the people. These basic amenities include portable water, power supply, roads, railways, ports, telecommunications, hospitals and schools among others (Fulmer, 2009). Past studies indicate that infrastructure influences MSMEs performance in various respects. For example, Scott, Darko, Lemma, and Rud (2014) report that the efficiency of manufacturing MSMEs in Bangladesh, Nepal, Nigeria, Pakistan, Tazania and Uganda has been greatly hampered by irregular power supply. Nkechi Ikechukwu and Okechukwu (2012) note that adequate infrastructural facilities increase MSMEs performance. This is because the availability of these facilities create a favorable environment for MSMEs to excel thereby boosting economic growth (Beyene, 2002). Good infrastructure is vital if MSMEs are to break even and be profitable. Ebert and Memillen (1999) posit that firms are more productive when public infrastructure is adequately available. In addition, the growth and expansion in telecommunication industry has also boosted MSMEs linkages to various clients and support agencies resulting in improved performance. Nkechi et al (2012) report that MSMEs benefitting from agency support and soft loans are more likely to grow and survive than others not having such privileges. Yet, a few studies report infrastructure has a negative effect. For example, Akinbogun (2008) discovered that infrastructural facilities were inadequate and failed to support growth of viable MSMEs in the ceramic industry in Nigeria. Furthermore, the results from Kinyua (2014) show existing infrastructural facilities do not enhance the performance of SMEs. In line with these discussions, this study formulates hypothesis one:

H1: Infrastructure has a significant and positive effect on MSMEs performance in Borno State

2.4 Insecurity and MSMEs Performance

Insecurity generally refers to a lack of protection or being open to threats or danger to lives and properties. These threats result from kidnapping, terrorism, human trafficking, armed robbery, ritual killings, communal clashes, and farmer-herder conflict among others (Abbas & Mohammed, 2016). Insecurity has been on the rise in several parts of Nigeria putting pressure on the government and security agencies to safeguard the lives and properties of Nigerians (Adegbami, 2013). This is because insecurity discourages investment and results in a huge drawback and blockade to business investment. Past studies indicate that insecurity exerts an enormous influence on the business environment in general and MSMEs in particular. For instance, Okpaga, Ugwu, and Eme, (2012) reported that there has been a waning of business activities from 2009 to 2012 due to the actions of Boko Haram insurgents in the North east. In addition, Chukurah, Eme and Ogbeje (2015) noted that north-east has suffered more than one hundred and fifteen (115) attacks by terrorist insurgents making the environment dangerous and pushing entrepreneurs to move to safer environments. Nnamdi, Sebastine, Junior and Anyanwu (2015) noted that entrepreneurial relocation has crippled the activities of MSMEs in the north east and business activities in general. Even the businesses that remained in operation have suffered several hardships, underdevelopment, backwardness, loss and ultimately, poverty (Ali, Musa & Fada, 2016). These unfortunate incidents have impaired growth and economic development of not only the region but has also portrayed Nigeria as an unsafe environment for foreign investments (Nafiu, Okpanachi & Nurudeen, 2014). The Global Peace Initiative-also reported a significant decline in peace as Nigeria ranked 149th out of l63 countries in the 2017 Global Peace Ranking, making Nigeria the least peaceful country in West Africa (GPI, 2017). Furthermore, the Trading Economies (TE, 2018) shows Nigeria suffered a decline in foreign direct investment in 2018 ($808.56 million) compared to 2012 ($3,084.9 billion). This is because the country is perceived as volatile and very risky. The results of these insecurities cast doubt on the safety of investment thereby discouraging indigenous businesses in general and foreign direct investment in Nigeria in particular. In line with these arguments and assertions, this paper postulates:

H2: Insecurity has a significant negative effect on MSMEs performance in Borno state

2.5 Government Policies and MSMEs Performance

Government policies are regulatory pronouncements or instruments that regimes employ to guide the conduct of businesses. The state of the economy however, guides the extent and direction of government policies. For instance, Sathe (2006) asserts that government regulations can deter or enhance small businesses. When the goal is enhancement, policies aim to promote development, healthy competition, growth and quality products and services. Similarly, government can also implement restrictive policies such as fiscal policies that aim to control business operations or autonomy (Eniola & Entebang, 2015). Literature on MSMEs have suggested that government policies has a major effect on the MSMEs performance. For instance, Okpara (2011) reported that MSMEs fail in Nigeria due to several factors such as inadequate financial support, poor administration, unfavorable tax policies and lack of incentives. Some studies provide evidence that these policies affect MSMEs performance. For instance, Agwu and Emeti (2014) showed that multiple taxes are a huge constraint to maximizing profits that could be ploughed back into the business for expansion and growth. Eniola and Entebang (2014) note that tax waiver incentives also encourage small businesses to grow and expand. In fact, Okpara (2011) found that policies promoting MSME access to capital and equipment, loans as well as exemptions have reduced MSMEs costs, enhanced profits and growth. In line with these discussions, this study postulates hypothesis three:

H3: Government policies have significant effect on MSMEs performance in Borno state

2.6 Training and MSMEs Performance

Training refers to the attainment of expertise, knowledge and capabilities acquired through teaching of vocational or practical knowledge aimed at achieving a particular purpose (Abdullahi, *et al.* 2015). Training improves human intellectual ability, efficiency, skill, competence and performance. According to the Industrial Training Fund (ITF, 2006) training is a process by which knowledge, talents and skills of employees are improved. Prior studies show that entrepreneurial training is vital to the growth and survival of MSMEs. According to Oforegbunam and Okorafor (2010), training increases employee productivity, efficiency, competence and attainment of organizational objectives. Bruderl, Preisendorfer and Ziegler (1992) show that entrepreneurs that receive training are more productive and perform better than those who did not. In addition, Betcherman, Leckie and McMullen (1997) showed that small businesses that had well-structured training curricula achieved better results in terms of revenues, profits, product quality and service delivery. Beaver and Hutchngs (2005) reported that training promotes learning and enhances employee competence leading to better performance. These studies found training significantly affected entrepreneurial performance. In line with these discussions, this study proposes hypothesis four:

H4: Training has a significant and positive effect on MSMEs performance in Borno state

3. Research Framework

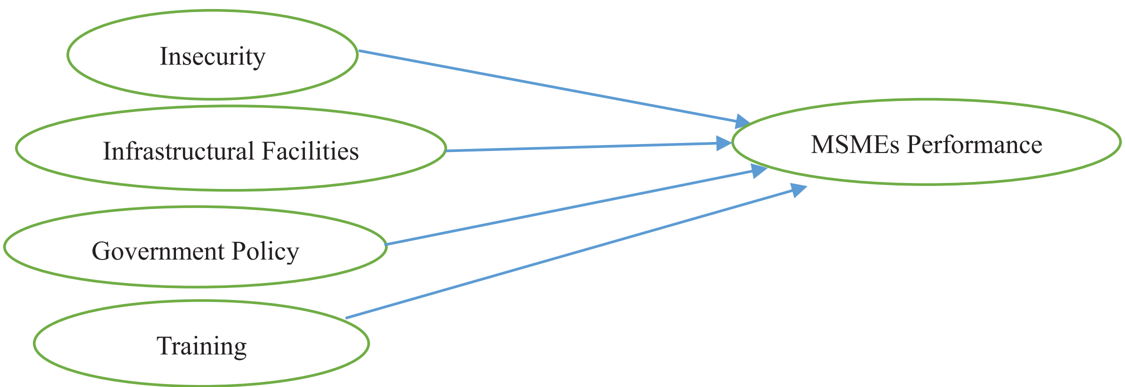

Figure 1. Research Framework

The research framework on figure 1 shows four factors; Insecurity, Infrastructural Facilities, Government Policy and Training are hypothesized to affect MSMEs performance in Maiduguri, Borno state. Insecurity is captured in terms of extent of destruction to properties, disruption of business, displacement and restriction of movement. Infrastructural facilities are assessed in terms of adequacy of communication and road network, effectiveness of transportation systems, stability of power supply and ICT globalization level. Government policy is measured in terms of tax policies, regulations, subsidies, and the influence of local rates, fares and charges. Training covers effects of free capacity training, extent of reliance on vocational training, enhancement of skills and increase of output. Together, these factors are posited to affect MSMEs performance in Borno state, Nigeria. Therefore, these factors are postulated as the principal factors affecting MSMEs performance in Borno state, Nigeria.

4. Method

The study employed the survey method to obtain data from operators of MSMEs about the factors affecting MSMEs performance. The instrument was tested on two MSME owners to ascertain whether the items were clear and reliable. The instruments were then administered to MSME respondents operating in Maiduguri Metropolis. From the records obtained from the Council, there are 2416 registered business in the 15 wards in Maiduguri. The study used simple random sampling technique to select 350 MSME owners in Maiduguri metropolis.

5. Results and Discussions

The data collected was analyzed using descriptive and inferential tests. Instruments were collected after 10 days of administration. A total of 110 instruments were retrieved from MSME operators representing a response rate of

33.2%. Of the 110 instruments, 26 were discarded because they had significant number of missing values. This resulted in 84 valid instruments which informs the analysis. Table 1 shows respondents' demographic profile.

Table 1. Respondents' Demographic Profile

Item	Frequency	Percentage %
Gender		
Male	58	69
Female	26	31
Age Category		
18-25	12	14.3
26-35	39	46.4
36-45	25	29.8
46-55	8	9.5
Business Type		
Mobile accessories business	21	25
Carpentry	17	20.2
Restaurant business	15	17.9
Tailoring	11	13.1
Retail store business	14	16.7
Stationary business	6	7.1
Years of Business		
0-2years	33	39.3
3-6years	25	29.8
7-10years	15	17.9
11-13years	5	6
21 and above	38	31.1
14-17years	4	4.8
18-20years	2	2.4
Average Profit Per Annum		
N100,000-N500,000	34	40.5
N501,000-N1,000,000	25	29.8
N1,001,000-N1,500,000	9	10.7
N1,501,000-N2,000,000	5	6
N2,001,000-N2,500,000	4	4.8
N2,501,000-N3,000,000	3	3.6
N3,001,000-N3,500,000	1	1.2
N3,501,000-N4,000,000	2	2.4
Above N4,000,000	1	1.2

Of the 84 respondents, 69% were male and 31% female while 86% were above 25 years. The entrepreneurs comprised of mobile accessories vendors (25%), carpenters (20%), restaurant owners (18%), tailors (13%), retail store owners (17%) and stationery business owners (7%). Majority of the MSME owners (69%) have been in operations for 6 years or below while only 7% of the business have been in operation for 14 years and above. About 80% of the businesses made average annual profit of ₦I, 500,000 or below.

5.1 Reliability Test and Exploratory Factor Analysis

The items in each variable were assessed to establish their internal consistency and reliability. The Cronbach alpha coefficient shows all variables have exceeded the minimum benchmark of 0.7 (Sekaran & Bougie, 2010). Hence all item measures are considered reliable and consistent in measurement. Exploratory factor analysis (EFA) was also undertaken to establish preliminary relationships in order to identify the principal components that can represent the variables. The Bartlett's test is significant (.000) and the Kaiser Myer Olkin (KMO) measure is 0.735 which exceeds Hair et al (2010) minimum acceptable benchmark (0.70). The anti-image correlation for each factor for each item met the 0.50 benchmark indicating that factors are reasonably associated with each other. Next, communality values for each item exceeds 0.50 benchmark (Hair et al., 2010) ranging from 0.580 to 0.900. The total variance explained by the variables is 72% (Hair et al., 2010). The rotated factor matrix shows all factor loadings are significant (>.50) and load on only one construct.

5.2 Correlation Results

Pearson product-moment correlation was run on the five variables of the study in order to examine the correlation between the variables (infrastructure, insecurity, government policy, power supply and SME performance).

Table 2. Pearson Correlation

		Minfra	MInsec	Mtrain	MGovPol	MSmeperf
Minfra	Pearson Correlation	1				
	Sig. (2-tailed)					
MInsec	Pearson Correlation	.056	1			
	Sig. (2-tailed)	.615				
Mtrain	Pearson Correlation	**.334****	.045	1		
	Sig. (2-tailed)	.002	.688			
MGovPol	Pearson Correlation	**.290****	-.098	**.363****	1	
	Sig. (2-tailed)	.007	.377	.001		
MSmeperf	Pearson Correlation	**.405****	**-.311****	**.390****	**.399****	1
	Sig. (2-tailed)	.000	.004	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows infrastructure is positively correlated with training, government policy and MSME performance (.334, .290 & .405) all significant at 1% (P=.002, .007 & .000). In addition, training and government policy are positively correlated to MSMEs. Performance (.363, .390 & .399) at 1% (P=.001, .000 & .000). However, MSMEs performance is significantly negatively correlated to insecurity (.-.311) at 1% (P=.004).

5.3 Multiple Regression Results

Multiple regression was run using the variables in order to examine the extent of the relationship among the variables and ascertain if the variables can predict MSMEs performance. The results on table 3 show an adjusted R square of 35.5% implying that the variables (infrastructure, insecurity, government policy and training) predict variation in the dependent variable (MSMEs performance) by 35.5% and 64.5% variation is explained by other variables outside this study's focus. The F statistic is positive (12.439) and significant at 1% (P=.000) indicating that the model is fit and reliable.

Table 3. Regression Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	Durbin-Watson
1	.622[a]	.386	.355	.62952	12.439	.000[b]	2.629

a. Predictors: (Constant), MGovPol, MInsec, Minfra, Mtrain
b. Dependent Variable: MSmeperf

Table 4. Regression Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
	(Constant)	2.094	.439		4.775	.000		
	MInsec	-.415	.116	-.318	-3.571	.001	.979	1.022
	Mtrain	.270	.112	.237	2.417	.018	.808	1.238
	Minfra	.426	.142	.285	2.989	.004	.852	1.174
1	MGovPol	.285	.139	.199	2.047	.044	.821	1.217

a. Dependent Variable: MSmeperf

The regression coefficients are presented on table 4. The result on infrastructural facilities is significant at 1% (t=2.989; P=.004). This shows that infrastructure facilities significantly predict MSMEs performance. This finding concurs with Abdullahi *et al.* (2015) results that shows infrastructural facilities enhance small businesses' performance. Therefore, hypothesis one (H1) which states that Infrastructure has a significant positive effect on MSMEs performance in Borno state is supported. However, insecurity has a significant negative effect (t=-3.571; P=.001) on MSMEs performance. This implies that insecurity is a significant predictor of MSMEs performance. In other words, a rise in insecurity results in a negative influence on MSMEs performance in Borno State. This finding is in line with Abbas and Mohammed (2016) who found that insecurity and insurgency has affected businesses in north eastern Nigeria. Hence, hypothesis two (H2) which state that Insecurity has a significant negative effect on MSMEs performance in Borno State is supported. Further, training significantly and positively affects MSMEs performance (t=2.417; P=.018). This finding suggests increasing MSMEs training will result in an equivalent rise in performance of MSMEs. This finding is in line with Eniola & Entebang (2015) results that entrepreushirial training influences small businesses performance.

Therefore, hypotheses three (H3) is supported. Finally, government policy significantly and positively influences MSMEs performance (t=2. 047; P=.044). This finding suggests that an increase in government policies and incentives results in a corresponding increase in performance of MSMEs. Therefore, hypotheses four (H4) is supported. In assessing the robustness of the model, the tolerance value is <1 and Variance Inflation Factor < 10 and so are reasonably within limits and rules out the existence of Multicollinearity in the model. Similarly, the Durbin-Watson statistic of 2.62 is <4 and indicates no auto correlation. Overall, the results show that the model is fit and robust.

6. Discussions and Conclusions

This study contributes to the studies on MSMEs in numerous ways. First, it extends Abdullahi *et al.* (2015) and Tahir and Usman (2018) study by including several other factors such as government policies and Insecurity in an empirical study. This is also important because it provides greater insight on challenges peculiar to MSMEs in Borno state so that government can focus on eradicating these challenges and pave way for better performance. Second, the correlation and regression results show infrastructure and MSMEs performance are positively and significantly related. This is consistent with prior studies such as Amwele (2013) and Abdullahi *et al.* (2015). This implies that government should upgrade existing infrastructure especially power supply and good road network so that MSMEs can enhance their productivity. Third, Government policies and training are also significantly and positively associated with MSMEs performance. The regression results also show that government policies and training are significant predictors of MSMEs performance. This is also consistent with prior studies such as Eniola & Entebang (2015) and Abdullahi *et al.* (2015). This means that government should periodically implement training schemes and skill acquisition programmes for greater enlightenment and competence of MSME owners and managers. Similarly, favourable policies such as tax waivers can also help in encouraging and promoting MSME performance, growth and productivity. Fourthly, Insecurity is also significantly but negatively correlated with MSMEs performance. The regression results also show that insecurity is significant and negatively affects MSMEs performance. This finding is also consistent with prior studies such as Abbas and Mohammed (2016). In fact, Insecurity has the highest impact on MSME performance compared to the other factors. This means that government must ensure that they eradicate all forms of insecurity before any meaningful performance from MSMEs can be achieved. In sum, the results show that all the factors influence MSMEs performance even though insecurity has the most significant impact in Borno state. Thus, the paper concludes that government should tailor its policies to enhance MSMEs performance by providing adequate infrastructure, training and curb the activities of insurgents so that MSMEs can grow and prosper in building the economy of the state. Despite its contributions to knowledge, the study has some limitations. The results were based on data from a survey which is prone to several shortcomings. In addition, the study did not examine differences in perception between MSME owners and managers nor test for non- response bias among the respondents sampled. Furthermore, perceptions of Nigerian MSME owners may differ from MSME owners in other countries because contextual factors and country peculiarities. Regardless of these limitations, the findings have important ramifications for MSME owners and government. The study limitations provide areas for further research on factors influencing MSME performance. In addition, the factors studied accounted for 36% of the variance explaining MSME performance. Hence other variables outside those considered here need to be investigated.

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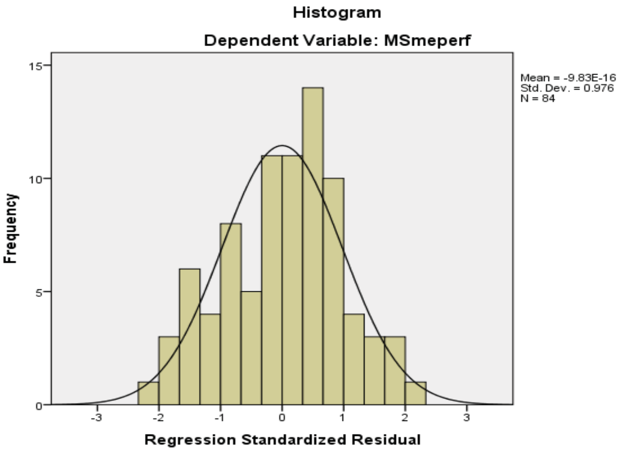
Appendix A



Appendix B

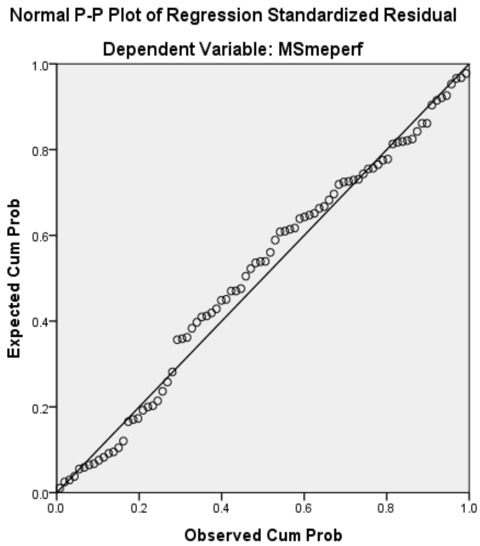


Figure B1. Regression Standardized Residual

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Employee Theft among College Students in the Workforce

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Abstract

Employee theft costs organizations billions of dollars annually. Despite the severity of employee theft, previous research has not focused on the specific demographics of employees who commit this crime. The number of college students in the workforce has increased over the years; thus, the purpose of this study was to investigate the serious problem of employee theft, particularly in relation to the college student population. A survey was used to collect data from college students to indicate employee theft activities among them. Employee theft activities were categorized as follows: time theft, property theft, embezzlement, pilferage, and data and trade secret theft. Survey responses from 92 students indicated that the majority committed time theft, followed by property theft, pilferage, data and trade secret theft, and embezzlement, respectively. This study adds valuable information for businesses and practitioners to understand the severity of employee theft among the increasing number of college students in the workforce.

Keywords: employee theft, college student employees, college student theft

1. Introduction

Employee thefts are crimes committed by employees for the purpose of personal gain. The issue of employee theft is considered an important one that deserves serious attention from organizations. According to Omar et al. (2011) and Weber, Kurke, and Pentico (2003), employee theft affects approximately 95% of all businesses and costs them billions of dollars each year. While much research suggests that the magnitude of employee theft in organizations is on the rise, the author believes additional research focusing on specific demographics of employee theft should be conducted. The author’s proposal is supported by Peterson and Zikmund (2004), who indicated that research on employee theft and other unethical behaviors has failed to investigate the unique demographics of employees in the workplace.

The number of college students in the workforce has increased steadily in the past four decades (Riggert et al., 2006), both in terms of the number of students employed and the number of hours they work (Bozick, 2007; Oliver, 2009). Student workers are a significant proportion of the labor market. It is not surprising that the number of students who are employed and the number of hours they work have increased over the years. More Americans understand the value of education and view higher learning as an American ideal (Riggert et al., 2006). While striving for this opportunity, however, most students also must work to fund their education, for which expenses are high and continually rising (Kulm & Cramer, 2006; Riggert et al., 2006). Approximately 80% of all college students are employed, with more than 50% employed for an average of 29 hours per week during the school year (DeSimone, 2008; Riggert et al., 2006). With both college student employment and employee theft increasing, research on employee theft has been challenged based on the different forms, degrees, and causes of theft (Niehoff & Paul, 2000). Therefore, research that focuses specifically on employee theft within this demographic and on different types of employee theft (time theft, theft of property, embezzlement, pilferage, and data and trade secret theft) will benefit businesses and practitioners by providing important insights into the gravity of employee theft among college students.

2. Objectives

Despite the magnitude of employee theft and the increasing number of college students in the workforce, studies on employee theft among these students are limited. With an increase in college student employment, previous research has indicated that college student employees’ propensity to engage in theft is also increasing (Graves, 2008). The purpose of this study, therefore, was to investigate the severity of employee theft among the college student population and to determine the various types of employee theft among these students. The types of employee theft covered by this study are time theft, property theft, embezzlement, pilferage, and data and trade secret theft. Each form of theft was measured based on the rate of the following behaviors: misusing time during work hours (time theft), misusing an employer's property (property theft), dishonestly appropriating or hiding funds/money (embezzlement), obtaining small items for personal use (pilferage), and taking/changing confidential information without authorization (data and trade secret theft). Identifying the seriousness of employee theft among college students will help organizational leaders and practitioners manage the risks proactively and efficiently.

3. Literature Review

The purpose of this study was to investigate the severity of employee theft among college students. To achieve this research objective, a literature review is crucial. The first section in the literature review focuses on the significance and urgency of employee theft. The last section of this literature review features information on how businesses react to employee theft.

3.1 Significance of Employee Theft

Employee thefts are crimes committed in various types of organizations. Research indicated that both private and public organizations have experienced being victims of this behavior (Kelly & Hartley, 2010). Business organizations continue to face the issue of employee theft, and combating this issue is a challenge. Previous data revealed that the rate of employee theft has been rising steadily, and the problem has grown in severity (Alstete, 2006; Daigle, Morris, & Hayes, 2009). Research has also indicated that, of all the new businesses that fail within the first year, as many as 50% fail as a result of employee theft (Krippel et al., 2008).

Employee theft is a threat that organizations cannot ignore and must attempt to minimize. The top-three threats for American businesses are (a) employee theft, (b) workplace violence, and (c) fraud and white-collar crime, with two of the three threats related to embezzlement (Johnson & Indvik, 2002). Employee theft is recognized as a problem among many types of organizations and industries. Further, many businesses such as retailers, bankers, manufacturers, builders, grocers, small businesses, restaurateurs, hospitals, pharmacies, nursing homes, service providers, law firms, and government agencies experience employee theft; it is even recognized as a problem by librarians (Sauser, 2007). Among employee theft cases, privately owned businesses comprise the largest group of all organizational victims, with the median loss in the private business sector higher than government and nonprofit agencies (Holtfreter, 2004). Economically, the cost of employee theft to businesses can be more than the value of what was taken. The extra costs as a result of employee theft also include recruiting, interviewing, screening, and the cost of rehiring (Appelbaum, Cottin, Paré, & Shapiro, 2006).

Everyone in the organization can be a potential thief, and most employees have admitted to having taken something from work. Indeed, one survey discovered that 75% of employees admitted taking property from their employers at least once (Appelbaum et al., 2006; Everton, Jolton, & Mastrangelo, 2007; Moorthy et al., 2010). Another survey indicated that 86% of employees engaged in personal email at work, and 30% to 40% of employees claimed they had used the Internet at work for personal purposes (Latto, 2007). It is estimated that American businesses lose approximately $85 billion a year as a result of Internet misuse in the workplace (Latto, 2007). Employee theft and abuse are not only limited to lower-level employees within organizations. In an interview with 200 chief executive officers (CEOs), Zeune (2000) found that all the CEOs admitted they have executives who steal, and 67% of the executives said that fraud in the workplace was worsening. Surprisingly, a large number of employees believe that taking goods from their companies for personal use is not considered theft (Appelbaum et al., 2006). Despite the fact that a large percentage of employees commit unethical behavior regardless of their position in their organizations, researchers have called for more research to precisely identify patterns among specific employee demographics (Van Fleet & Van Fleet, 2006).

Research on the impact of employee theft has been conducted in various businesses and industries. In a study within a retail industry, the literature shows that the employee theft situation is intensifying and is a major cause of retail loss (Alstete, 2006; Bamfield, 2006). Despite the perception of shoplifting being high among retailers compared with employee theft, the cost of shoplifting is not as high as the cost of employee theft. It has been estimated that, for every $1 stolen by shoplifters, $11 are estimated to be stolen by employees (Krippel et al., 2008). Thus, the retail industry lost approximately $41.6 billion in 2006 or 1.61% of sales to employee theft, which was nearly unchanged from 1.60% in 2005 (Grannis, 2007). In 1974, a survey of 100 retail employees revealed that about half had taken items from their employers (Sauser, 2007). Another research study conducted by the Food Marketing Institute in 1987 found that, among all thefts in supermarkets, 52.9% were attributed to employees (Sauser, 2007). The term "shrinkage" is commonly used in the retail sector to identify the loss of merchandise as a result of employee and customer theft (Alstete, 2006). Among shrinkage cases in the retail sector in the United States, employee theft is the largest cause at 47% or $15.8 billion, whereas customer theft is estimated to contribute to 32% of shrinkage (Alstete, 2006). This concludes that employee theft is a major contributor to inventory loss in the retail industry.

Another research group examined the impact of employee theft in the hospitality industry. The results showed that restaurant industry losses account for approximately 7% to 10% of gross sales annually, and 35% of restaurant failures were due to employee theft (Krippel et al., 2008). In addition, 50% of businesses in the hospitality industry reported employee theft incidents, with the cost of thefts more than doubling from 2000 to 2005 (Krippel et al., 2008). In the insurance industry, it is estimated that one-third of businesses fail as a result of employee theft (Mohsin, 2006). Notably, many employers appear to underestimate the level of employee theft in their organizations. Many businesses perceive employee theft as unpreventable and view it as part of doing business (Appelbaum et al., 2006; Bailey, 2006). The methods used to commit theft take various forms and techniques. The methods perpetrators normally use include stealing merchandise and cash, retaining a receipt to show that stolen items were actually purchased, overcharging and undercharging, voiding sales or not recording sales after the customers pay cash for the items, coupon stuffing, and issuing credit for nonexistent returned items (Mishra & Prasad, 2006). The U.S. Chamber of Commerce data indicated that up to 75% of employees admitted to stealing at least once, and most of them said they would continue to do so repeatedly (Aker, 2009; Appelbaum et al., 2006). Although many organizations experience employee theft, a high percentage of theft cases is never discovered. Unfortunately, previous research estimated that 75% of employee theft is never detected, which suggests that, although business owners do not see or have information on this behavior, it may still be occurring (Jackson, Holland, Albrecht, & Woolstenhulme, 2010).

Employee theft is often thought to be associated with low-value physical items; however, thefts can encompass much larger items such as computers, office equipment, or high-value test equipment (Moorthy et al., 2010). Misappropriating assets or asset theft typically involves employees who find a way to divert some of their employer’s cash flow into their own pockets (Buckhoff, Higgins, & Sinclair, 2010). Of all fraud cases, 85.5% to 89% are related to misappropriating assets, including stealing cash and other inventory (Daigle et al., 2007; Krippel et al., 2008). Peltier-Rivest (2009) estimated that asset misappropriation may contribute to as high as 90% of all fraud cases and are the most frequent fraud schemes. Although other available assets are available in businesses, employees tend to steal items that are useful such as clothing, groceries, electronics, and jewelry (Wells, 2003). Lord (2010) investigated median losses from fraud and found that, although the median losses of asset misappropriation were not as high as financial statement fraud, asset misappropriations occurred most frequently. The same study also showed that the median loss from asset misappropriation schemes was $150,000 compared with $2 million for financial statement fraud. Lord concluded that, despite this difference, the median loss of $150,000 from misappropriating assets is considered a large amount of money for small businesses.

Research on occupational fraud and theft in different organizational settings conducted by Peltier–Rivest (2009) showed that organizations that employed fewer than 100 employees experienced a higher percentage of losses in terms of sales size. In the same study, analysis also indicated that, whether measuring the size of the organization by the number of employees or by annual gross sales, fraud losses would likely be higher in smaller organizations. However, this research result appeared to be contradicted by other research. McClurg and Butler’s (2006) study stated that, as organization size increases, employee theft can increase due to a decrease in the degree of supervision. This explanation is related to the issue of proximal situations, which posits that employees tend to steal more often in impersonal situations or when the victim is less known by the perpetrator. The length of time for businesses to notice that fraud and theft occurs is varied; in some cases, it may be too late. The average length of time fraud and theft occurs before discovery is about 18 to 24 months (Lord, 2010; Nilsen, 2010). With this amount of time, businesses’ ability to recognize the warning signs will help them to prevent and eliminate further losses. The most frequently noticed signals were inventory losses; changes in employees’ lifestyles, spending habits, or behavior; and reductions in employee morale and attendance (Fletcher & Miles, 1997). Although it is important for businesses to look for red flags, businesses need to understand that such signals are merely indicators and do not indicate that fraud or theft are occurring (Peterson & Zikmund, 2004). After theft and unethical behaviors are discovered, businesses need to look beyond the monetary losses and consider possible damage done to the entity’s books, which requires money and time from other employees to correct finances (Tootle, 2008). In the worst cases, businesses may never recover at all (Tootle, 2008).

3.2 Business Response to Employee Theft

Despite businesses being aware of the severity and significance of employee theft, an attempt to minimize this behavior, however, is challenging due to the businesses’ own attitude. Many business owners consider employee theft unpreventable and believe it is part of the cost of doing business, yet research has revealed this is the wrong attitude for businesses (Appelbaum et al., 2006). Some business owners perceive internal and external theft differently; they perceive internal theft as a loss, not a crime (Appelbaum et al., 2006). Consequently, few employees get caught stealing, most cases of employee theft go unobserved, and businesses rarely publicize it when employees are caught (Mohsin, 2006).

Discussing the actual theft rate in the organizations may not be realistic and can be difficult due to the nature of the data. There are several reasons that explain the challenge investigators have to consider when gathering employee theft data. Because not all employee theft incidents are detected and not all are reported, statistics related to fraud and theft are only estimates (Peterson & Zikmund, 2004). In addition, reports and data related to the employee theft rate are gathered from employee and employer surveys, which may cause the theft rate to be inaccurate and underreported (Appelbaum et al., 2006; Bailey, 2006). For example, a study of restaurant workers from 2001 indicated that an average restaurant worker steals approximately $204 each year, an increase of $98 from three years earlier (Kidwell & Kochanowski, 2005). Experts believe, however, that the results in this study might be low because the National Service Security Council gathered this data from self-reports (Kidwell & Kochanowski, 2005). Oliphant and Oliphant (2001) indicated that several studies have attempted to identify an employee theft base rate; however, the results produced a wide range from 3% to 62%. These wide range rates were also obtained from sensitive self-report information; therefore, the results may remain inaccurate.

There are several additional reasons that cause employee theft to be underreported. One reason is that only detected theft can be reported, and most theft is detected by indirect means (not actually witnessing the act); therefore, businesses require a system of checks and balances where they can truly estimate the extent to which employee theft really affects them (Appelbaum et al., 2006). The concept of concealment by employees, in some cases, makes it more difficult for businesses to detect theft incidents. The extent to which employee theft affects a firm can be difficult to estimate because only a small proportion of employee theft is detected when it occurs (Bamfield, 2006). Unfortunately, the literature indicated that the majority of employee theft is not discovered. The data suggested that only very few employees are ever caught stealing, and it is estimated that as much as 80% of employee theft goes undetected (Oliphant & Oliphant, 2001). Additionally, there are more factors contributing to inventory loss that businesses need to consider. For example, calculating inventory loss in the retail industry can be difficult because such losses occur for various reasons such as shoplifting, employee theft, vendor fraud, and administrative error (Bailey, 2006; Chapman & Templar, 2006; Moorthy et al., 2010). Because the actual breakdown of loss from theft is impossible to obtain, known losses are normally much smaller than the unknown losses (Bamfield, 2006). As a result, the estimated contribution of employee theft rate is based on perceptions and businesses' best-informed guesses (Bamfield, 2006).

A study on employee theft in UK retailing (Bamfield, 2006) revealed an interesting finding. The estimated total loss during 2002–2004 was £44.67 million, but apprehended offenders were only responsible for 4.4% of the estimated total. In addition, among the estimated losses, only 9.4% was considered known losses, leaving 90.6% as unknown. Bamfield concluded that, if 90.6% of the estimated losses were undiscovered, a large number of employees must be stealing. Based on this finding, unknown theft does not guarantee that theft does not exist, and this result indicates that businesses cannot ignore the severity of employee theft. Employee theft is also underreported because some employees lack the requisite organizational commitment to motivate them to report misconduct to their employers. As such, employees may be reluctant to report employee theft by their coworkers because they empathize more with their coworkers rather than the organization (Appelbaum et al., 2006). For example, in a study on employee theft in retail, respondents were classified into two groups: nontakers and takers (Bailey, 2006). Nontakers were those who did not steal from employers, and takers were those who engaged in stealing (Bailey, 2006). The results showed that, although nontakers were more likely than takers to report employee theft, some reluctance to report employee theft incidents remained (Bailey, 2006).

Most managers know that fraud and unethical behaviors occur in the workplace; however, 40% say they would not report it (Johnson & Indvik, 2002). This finding is another reason that contributes to underreporting of employee theft. Prior to conducting research about employee theft at a drug store, Oliphant and Oliphant (2001) had to persuade and convince the store manager that theft was occurring; however, the store manager believed that theft was a result of shoplifting. In conducting the study, although employee theft was clearly identified, the store manager still refused to report the incidents to upper management because the manager was concerned that the thefts would reflect his quality as a leader. Another reason theft remains unreported is that losses from employee theft can be difficult for a business to accept and handle. Businesses often attribute losses to external theft because of their attitude toward the issue, and they are often in denial of the level of theft by their own employees (Chapman & Templar, 2006). Theft of inventory is considered one of the most common types of employee fraud, and research has indicated that businesses suffer most fraud losses from employees rather than from customers (Moorthy et al., 2010). Many organizations, however, still equate inventory loss with shoplifting, even though shoplifting is only one form of loss, which may contribute to only 20% of all stock losses compared with 60% that results from employee theft (Moorthy et al., 2010).

Many expressions are used to replace the term "employee theft," e.g., shrinkage, spoilage, shortage, unaccounted loss, defalcation (Appelbaum et al., 2006). Managers often use these expressions because they are in denial and want to avoid the image of criminal activity (Appelbaum et al., 2006). In addition, because an employee is often considered "part of the family," it can be difficult for business owners to accept that someone they know would steal from them (Peterson & Zikmund, 2004). As a result, shock and disbelief are common reactions when employees or colleagues are charged with fraud. A typical response from businesses is, "I never thought he/she would do something like that" (Peterson & Zikmund, 2004, p. 31). Business owners may have a difficult time responding to employee theft and dishonesty. In some cases, when they discover an employee engaging in this behavior, they often refuse to accept it and see it is as an isolated incident. Many businesses, therefore, accept that shrinkage or loss of goods is normal, and they experience this normality for various reasons (Johnson & Indvik, 2002). With this attitude, employers expect employees to steal; thus, employees view this behavior as acceptable and justifiable, which creates an organizational atmosphere that condones the behavior (Oliphant & Oliphant, 2001). Employees can rationalize and exploit business owners' attitudes; therefore, stealing becomes virtually risk-free (Appelbaum et al., 2006). Theft is also a learned response where employees develop informal rules or perceptions regarding what can be stolen based on the corporate culture (Gross-Schaefer et al., 2000). As a result, employees who want to act ethically will be pressured to conform to the less ethical environment and will be expected to join or become involved in unethical activities (Gross-Schaefer et al., 2000).

Dishonest employees are less likely to be minimally processed when caught committing theft, and these employees can simply find employment elsewhere (Fikes, 2009). Previous research revealed that businesses are often reluctant to report an employee theft incident to the appropriate authority. According to Taylor (2003), employee theft is one of the four least-reported crimes, along with credit card fraud, employee fraud, and customer theft. Taylor indicated that, among these four crimes, only one out of four credit card frauds, one of five employee fraud, and one of five customer thefts are reported. In sharp contrast, only one out of every 17 employee theft incidents is reported to the police. Another interesting research was also conducted on how U.S. businesses handle employee theft compared with other countries. An analysis of employee theft in retail stores in 16 European countries revealed that 53% of theft cases were reported to the police compared with only 5.9% reported in the United States (Appelbaum et al., 2006). This indicates that European businesses are less tolerant of this behavior than U.S. businesses (Appelbaum et al., 2006). Reporting employee thefts to the police can send a clear signal to other employees that such behavior is not tolerated; unfortunately, many organizations handle this issue informally (Mustaine & Tewksbury, 2002). Often there are reasons businesses decide to handle the issue within the organization. Sometimes they fail to act because of a real or perceived poor relationship with the police (Appelbaum et al., 2006). Business victims of employee theft were shown to have less faith in law enforcement and police and, as a result, fail to use law enforcement agencies to respond to employee theft (Appelbaum et al., 2006). This, in turn, undermines the effectiveness of law enforcement agencies and police (Appelbaum et al., 2006). Another reason for failing to take legal action is the fear of bad publicity (Geesey & Rocha, 2012; Mohsin, 2006).

Despite these findings, organizations must address the impact and consequences of unethical behavior. If employees witness deviant behaviors that go unpunished or that no consequences result for unethical behavior, the culture within the organization will change negatively (Everton et al., 2007). Experts have suggested businesses to take the hard-line approach when employee theft is discovered. Research indicated that, once an employee is caught stealing, a severe punishment or disciplinary action can deter other employees from doing the same (Appelbaum et al., 2006). Snyder et al. (1991) explained the importance of prosecution in order to reduce employee theft. To avoid the undercutting of all other prevention measures (e.g., internal controls, prescreening measures) in the organization, Snyder et al. suggested that managers must be willing to exercise this approach by prosecuting employees when theft is discovered. Failure to take such action sends mixed signals that can cause confusion and frustration among employees across the organization.

Krippel et al. (2008) conducted a study regarding how organizations respond when employee theft is detected. The most common response was to fire the employee; the second was to inform other employees about the punishment the employee received; whereas prosecution ranked third. The response used least was suing for or requiring restitution of the amount stolen. A report on UK retail crimes revealed that the police apprehended only 40% of the perpetrators of employee theft cases in retailers (Mishra & Prasad, 2006). The primary reasons for the low rate were as follows: prosecution takes too much time; the low rate of success in court; managers do not want to prosecute elderly or juvenile culprits; the penalties were not felt to be a deterrent; lack of evidence; internal discipline was sufficient; private settlements; employees disappeared; and the process cost is high (Appelbaum et al., 2006; Mishra & Prasad, 2006). Notably, among all the cases referred to law enforcement, 70% were prosecuted successfully, 73.5% of those prosecuted pleaded guilty or no contest, and only 0.3% of perpetrators were acquitted (Daigle et al., 2009).

When employees are caught engaging in theft, it is important to punish the employees equally, whether they are top management or lower-level employees (Wang & Kleiner, 2005). If management steals and is not punished, employees will view this behavior as acceptable; thus, this issue will continue to be a problem in the workplace (Wang & Kleiner, 2005). For example, Gross-Schaefer et al. (2000) presented a case in which the CEO of a candy company took home a massive quantity of candy bars each night. He was later confronted and resigned, but no legal action was taken. As a result, the organization's productivity decreased considerably. Conversely, in a case regarding MasterCard, the organization took a hard-line approach to preventing employee theft by imposing fines, terminating employment, and prosecuting offenders (Gross-Schaefer et al., 2000). As a result, MasterCard claimed great success with dramatic reduction in theft (Gross-Schaefer et al., 2000). Despite success within various organizations, researchers argued that this hard-line approach can also have a negative impact within the organization, which includes fear, confusion, and reduced productivity due to concerns related to doing something wrong (Appelbaum et al., 2006; Nilsen, 2010). This can create the perception of a negative corporate culture and reduced morale in the honest employees (Appelbaum et al., 2006; Nilsen, 2010). Organizations must therefore appropriately and effectively balance the hard-line approach.

4. Method

Survey data were collected to achieve the purpose of the study. The survey featured a section in which the participants could indicate their employment status (e.g., unemployed, current employment for more than one month, and current employment for less than one month). Spencer's (2010) employee theft questionnaire was used to measure the rate of employee theft for the different types of theft: misusing time during work hours (time theft), misusing or taking an employer's property (property theft), dishonestly appropriating or hiding funds/money (embezzlement), obtaining small items for personal use (pilferage), and taking/changing confidential information without authorization (data and trade secret theft). The rate of employee theft was measured using five-point Likert scale items. The respondents indicated their frequency of employee theft with 1 = *never*, 2 = *seldom*, 3 = *occasionally*, 4 = *often*, and 5 = *very often.*

Each employee theft was measured based on whether a student had ever engaged in the activities listed. The data collection took place at a local community college in Pennsylvania in the United States. A systematic sampling method of professors and instructors was used in the data collection. The researcher asked the selected professors and instructors for permission to distribute a survey in their classrooms. Upon their approval, the survey was distributed to undergraduate college students in the classrooms. The data collection took place over a 10-day period. Valid survey responses from 92 students were used to analyze the data for this study.

5. Results and Discussion

A total of 139 surveys were distributed to undergraduate college students in 10 different classes. All the students returned their surveys, but only 92 of the surveys qualified for the study. The remaining 47 surveys were considered unusable because the questionnaires had not been completed, some students were unemployed at the time, or some students had been employed for less than one month. The author decided to exclude the responses from students who had been employed at the time for less than a month, based on the assumption that they might not have had an adequate employment record to indicate the frequency of employee theft behavior.

Based on the results of the survey responses from the students, the majority (92.1%) admitted to committing time theft, whereas 33.7% had committed some form of property theft. Regarding the remaining types of theft, 5.6% of students had embezzled, 26.7% had committed pilferage, and 14.4% had committed data and trade secret theft, respectively.

Table 1. Percentage of College Students Who Committed Each Type of Theft

Type of Theft	%
Time theft	92.1
Property theft	33.7
Embezzlement	5.6
Pilferage	26.7
Data and trade secret theft	14.4

The findings discussed above were consistent with the previous research literature. Graves (2008) mentioned that college student employees' propensity toward theft in the workplace is on the rise. Harding, Carpenter, Finelli, and Passow (2004) also indicated that, among college student employees alone, approximately 48.8% have been tempted to engage in employee theft at least once. Based on these research findings and other research literature, employee theft among college students is clearly significant and deserves attention from the business community, so that appropriate steps can be taken to minimize the incidence of such theft and its consequences.

5.1 Time Theft

Time theft was by far the greatest form of theft committed by the students in this study, i.e., 92.1% of students whose questionnaires were accepted admitted to time theft. Some examples of time theft, often referred to as work withdrawal behaviors, include absenteeism, tardiness, low job involvement, leaving work early, doing personal matters during work hours, and taking unauthorized breaks (Henle, Reeve, & Pitts, 2010; Kulas et al., 2007). When college student employees take such actions, they are stealing time. Moreover, time theft behaviors reduce productivity at work.

5.2 Property Theft, Embezzlement, and Pilferage

The second most common type of theft the college students committed was theft of property (33.7%). Property theft is considered a major problem for retailers who experience shrinking inventories from the loss of merchandise as a result of employee and customer theft. However, employee theft alone contributes 47% or $15.8 billion of shrinkage in the retail sector in the United States (Alstete, 2006). Property theft is similar to embezzlement and pilferage; however, the differences are based on the magnitude and authority of an individual who commits employee theft. The distinction between property theft and embezzlement is that embezzlement is committed by a person in authority. Albanese (2008) and Vanasco (1998) refer to embezzlement as intentional conversion or misappropriation of property entrusted to one's care. The distinction between property theft and pilferage is in the substance of the items stolen. In simple terms, pilferage refers to the stealing of small items or merchandise in small quantities for personal use (Russell, 2000; Vanasco, 1998). Pilferage of office supplies is common in many organizations, and it is a serious problem for U.S. businesses. As Wells (1994) indicated in his research, pilferage of office supplies amounts to approximately $1 billion a year.

5.3 Data and Trade Secret Theft

With the advancement of technology, employee theft now is not only limited to tangible assets. Advances in technology enable employees to steal information such as trade secrets, customers' information, and other intellectual property. Although only 14.4% of college students admitted committing data and trade secret theft, for businesses to survive in a competitive economy, protecting their data and confidential information is critical (Camardella, 2004). For instance, in industries such as pharmaceuticals or biotechnology, the nature of the industry relies on new research and development, innovation, and protecting intellectual property. Camardella (2004) indicated that the theft of trade secrets and other intellectual property exceeds $250 billion a year, and 75% of those who commit such theft are considered trusted insiders, including employees.

6. Recommendations

The findings from this study indicate and confirm that employee theft among college student workers is a significant issue. With the high amount of losses annually as a result of employee theft, this issue has important implications for businesses (Kulas et al., 2007). There is need for businesses to strive to understand the root behavioral causes to proactively manage the risks (Ramamoorti, 2008). College students are now considered an important element of the workforce because the majority of them are employed (Riggert et al., 2006). Therefore, the findings from this study offer new practical implications for businesses to consider.

Future research addressing the rate of employee theft among college students should expand further to include a more qualitative component that offers more in-depth information pertaining to this issue. Further, future research conducted at different educational settings such as the university or private university would provide additional information on this issue for this particular demographic. A larger sample size with more variety of participants from different educational disciplines would offer a broader perspective regarding the investigation of this issue as well. Additionally, expanding the research to focus on employees with different demographics is recommended, as Peterson and Zikmund (2004) indicated that previous research has failed to investigate the unique demographics of employees who engage in unethical behavior in the workplace. The investigation of more factors and other variables that have an impact on the rate of employee theft among college students would also be beneficial, as many unknown contributing variables still have an impact on this behavior (Gross-Schaefer et al., 2000). Additional findings of factors would definitely contribute to literature and be useful for business communities. Finally, it is recommended that the future research should be more industry- or organizational-setting specific, so the findings can be generalized within that particular industry or organizational setting.

7. Conclusion

This study's findings indicate that the prevalence of employee theft among college students is significant and is growing. With the magnitude of financial losses annually as a result of theft, this issue has important implications for businesses. Based on the survey results, time theft, property theft, and pilferage appear to be the most common types of theft committed by college students. The different types of theft discussed in this research and the findings of this study should help businesses and practitioners become aware of the issue of employee theft among college students. Employers, therefore, can proactively address this issue in a timely manner to prevent or minimize the cost of such behavior.

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The long-Run and Short-Run Analysis between Stock Market Index and Macroeconomic Variables in Jordan: Bounds Tests Approach

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Abstract

This paper investigates the long-run and short-run relationship between stock market index and the macroeconomic variables in Jordan. Annual time series data for the 1978–2017 periods and the ARDL bounding test are used. The results identify long-run equilibrium relationship between stock market index and the macroeconomic variables in Jordan. Jordanian policy makers have to pay more attention to the current regulation in the Amman Stock Exchange(ASE) and manage it well, thus ultimately helping financial development.

Keywords: stock market index, macroeconomic variables, ARDL bounding test, Amman Stock Exchange

1. Introduction

Over the past decades, the relationship between stock markets index (SMI) and macroeconomic variables has been researched in developed and developing countries (Hossain et al., 2013; Rangel, 2011; Rahman et al., 2009). Moreover, stock markets play an important role in economic growing through transferring available funds from savings units to borrowings units (Naik and Padhi, 2012; Pal and Mittal, 2011). Thus, both of financial and economic theories argued that stocks prices are affected by the performance of main macroeconomic variables (Bekhet and Matar, 2013; Ross, 1976; Fama, 1970;Sharpe, 1964).

Furthermore, the financial market affects economic growth by the efficient financial systems (e.g., banks, equity markets and bond markets), which are the channels of capital and their benefits for economic growth (Khan et al., 2014;Otchere, Soumare and Yourougou, 2011). Also, the financial market plays a significant role in economic growth. It promotes economic growth through capital accumulation and technological advancement by boosting savings rate, delivering information about investments, optimizing the allocation of capital, mobilizing and pooling savings, and facilitating and encouraging foreign direct investment(FDI). Besides, financial development may contribute to economic growth through mobilized savings that increases the volume of resources available to finance investment (Bekhet and Al-Smadi, 2017).

Moreover, the finance literatures contain huge number of studies that examined the long-run and short-run relationship between SMI and macroeconomic variables (GDP, exchange rate (EX), broad money supply (M2), industrial production (IP), consumer price index (CPI) and FDI). Their results supported evidence of long-run and short-run relationship among the variables(Bekhet and Matar, 2013; Bekhet and Mugableh, 2012;Kumar, 2011; Rangel, 2011;KarimandMajid, 2010;Chen, 2009; Ibrahim and Aziz, 2003).Thus, the main objective of this paper is to examine the long run and short run linkages betweenthe SMI and (GDP, M2, IP, CPI and FDI).This provides a clear picture for the policy makers in formulating efficient economic policies in financial market by the efficient financial systems (e.g., banks, equity markets and bond markets). Section 2 provides the overview of Jordanian economic and stock market. The literature review is presented in section 3. Data and model are presented in section 4. The economic framework, results and conclusion are discussed in sections 5, 6 and 7 respectively.

2. Overview of Jordanian Economy and Stock Market

Jordanian economic performance fluctuated during the 1978-2016 period as a result of political, economic and social volatility of the region, which had a significant impact on the Jordanian economy by taking the form of economic shocks (World Bank, 2000, 2008, 2013). For example, the budget deficit and the balance of payments rose to the highest levels, foreign exchange reserves declined and the foreign debt situation worsened. The result was that the Jordanian dinar fell from USD 2.95 in 1982 to USD 1.70 in 1989. Also in 1984, the Jordanian RGDP decreased from 10% annual growth in 1980 down to 6% (Amranews, 2012; Wilson, 2005; World Bank, 2000). Also, the Jordanian economy has been subjected to many shocks since 2007, starting with the global financial crisis in the 2008-2010 period, Arab spring, interruption of Egyptian gas, and the Syrian crisis (Central Bank of Jordan(CBJ), 2013;Bekhet and Matar, 2013; World Bank, 2013).

However, the Jordanian government attempted to address the economic shocks through implementation several economic policies starting with internal policies represented by the economic planning since early (1976 to 2016) period and the external policies incorporated in the international economic agreements.Jordan became a member of the main international organizations in the world. For example, Jordan joined the World Trade Organization (WTO) in June 2000, the United States Free Trade Agreement (USFTA) in 2000 and the Greater Arab Free Trade Agreement (GAFTA) in 1998. More recently, Jordan signed a free trade agreement with Canada at the end of 2011. As a result the Jordanian economy became the most significant market in the Middle East (Ministry of Industry and Trade, 2012; Rosen, 2004).

Since economic growth is measured as the annual change of RGDP, it is important to reanalyse the Jordanian RGDP to show the performance of Jordanian economy activities. Generally, Jordanian RGDP at constant prices achieved stable performance for the 2013, 2014 and 2015 periods with an annual growth rate of 2.8%, 3% and 2.3%, respectively (World Bank, 2016; CBJ, 2013).Figure1 shows that Jordanian RGDP at constant prices recorded an annual growth rate of 4.1% for the 1978-2016period.

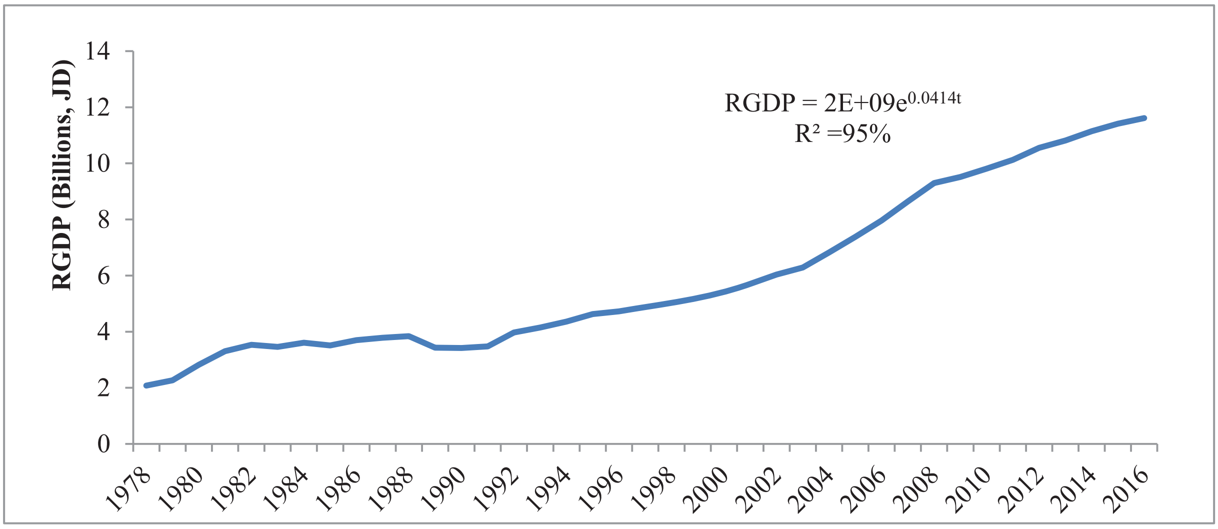

Figure 1. Jordanian RGDP for the (1978-2016) Period

Source: World Bank (2017)database, available online at:http://data.worldbank.org/country/jordan, accessed on Jan 2017.

Figure 1 represents that Jordanian RGDP started in 1978 with a value of JD 2.07 billion and increased to JD 3.84 billion in 1988. Due to the 1991 Gulf War and instability in the Middle East region, Jordanian RGDP was greatly affected. These conflicts caused massive resource shortages in the Jordanian economy, limited economic relations with other neighbour countries and reduced the recruitment of Jordanian workers. Besides, there was a decrease in the inward oil supply and a decline in the traditional Jordanian export markets (Bekhet and Matar, 2011). As a result of these conflicts, Jordanian RGDP decreased from JD 3.840 billion in 1988 to JD 3.470 billion in 1991. However in 1992, Jordanian RGDP improved again to reach JD 3.97 billion and continued increasing to reach JD 5.42 billion, JD 8.64 billion, JD 10.120 billion, JD 10.553 billion and JD 11.61 billion in 2004, 2007, 2011, 2012 and 2016, respectively.

In the long term history, Jordan's economy has been geared towards a free market economy, mainly through a policy of openness and activation of the leadership role of the private sector. Jordan has adopted a series of privatizations of enterprises owned by the state, and the most important step taken was restructuring the investment rules that led to encouraging the business environment. As a result, Jordan was ranked 111 of 183 countries that were studied in attractiveness to businesses in the world (IMF, 2011). Also, Jordan is classified as one of the top twenty countries in the world in terms of attracting FDI inflows (UNCTAD, 2012). Moreover, Jordan has witnessed structural reforms for the last 15 years including privatization of state enterprises, liberalization of the trade and investment administrative, introduction of modern regulations, and institutions, which have helped transforming the Jordanian economy into one of the most open economies in the Middle East Countries ((Jordan Investment Board, 2012; Bekhetand Al-Smadi, 2015).

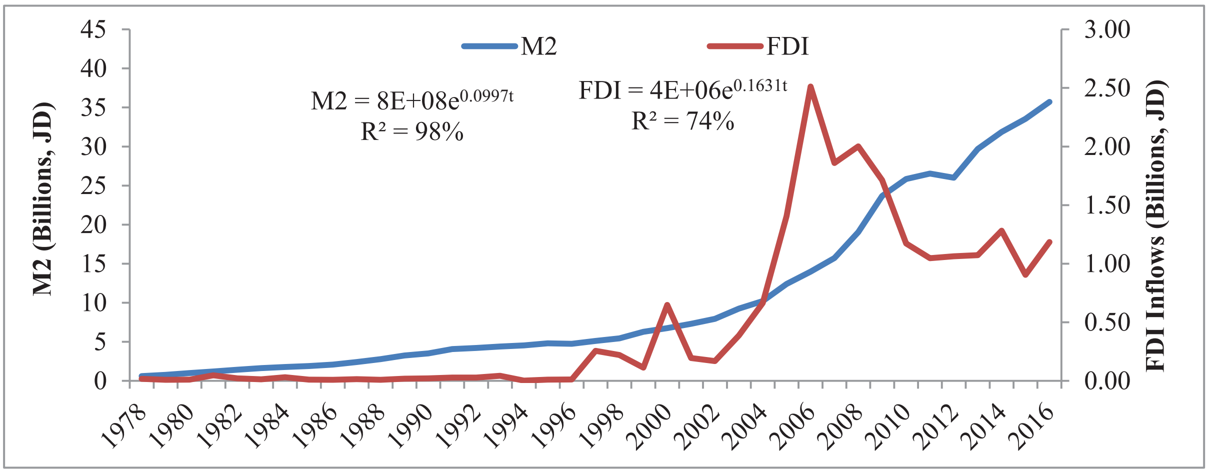

Figure 2. Jordanian FDI inflows and M2 for the (1978-2016) Period

Source: World Bank (2017)database, available online at:http://data.worldbank.org/country/jordan, accessed on Jan 2017.

Figure 2 shows that inward of FDI in 1978 started with JD17.2 Million and increased dramatically to the end of 2006 with a value of JD2.512 Billion. In 2011 the value of FDI inflows declined by 40% with a value of JD1.046Billion. However, this decline in the total investments was due to the current political instability and security environment in the Middle East, which limited capital flow between countries in the region and prompted investors to review their investment strategies (Bekhet& Al-Smadi, 2012). In 2012 FDI inflows to Jordan has been increased to reach JD1.28 Billion then decline to reached 905.1 Million in 2015.

Moreover, the value of the money supply (M2) at constant prices recordeda decreasedvalue by 3.4% in 2012 comparedwith 8.1% and11.5% in 2011 and 2010, respectively(CBJ, 2013). M2 is one important factor of the economic growth, which means that the rate of growth in M2 came as a result of the growth in GDP (Al-Bdour and Ahmad, 2012). Moreover, Figure 2 shows that the Jordanian M2 at constant prices achievedan annual growth rate of 9.9% for the 1978-2016period. However, the M2 in Jordan continued an upward trend over the 2002-2016 period with an average annual growth rate of 6.1% to reach JD 35 billion at the end of 2016 (CBJ, 2012). The rise of M2 came as a result of expansion in both domestic assets and net foreign assets that ultimately led to increase the GDP during the same period.

The Amman financial market was created and started its business in 1978. It served as the precursor to the Amman Stock Exchange (ASE). The ASE was established as a non-profit, private institution with administrative and financial autonomy (Allahawiah and Al-Amro, 2012; ASE, 2012). In addition, since 2007, Jordan has had full membership in the World Federation of Exchanges (WFE) and has been represented on the board of international accounting standards (Bekhet and Matar,2013).

Therefore, theSMIrecorded an annual growth rate of 6.1% for the 1978-2016period. The performance oftheSMI fluctuated from 757 pointsin 1980 to 1,330 points in 2000. These fluctuations were a result of the weakness of the monetary policy during theperiod of 1980–2000. However, the SMI started to increase with a value of 2,615 points in 2003 and reached the first peak in 2005 with 8,191 points, and then declined to reach 4,069 points in 2016 (Figure 3).

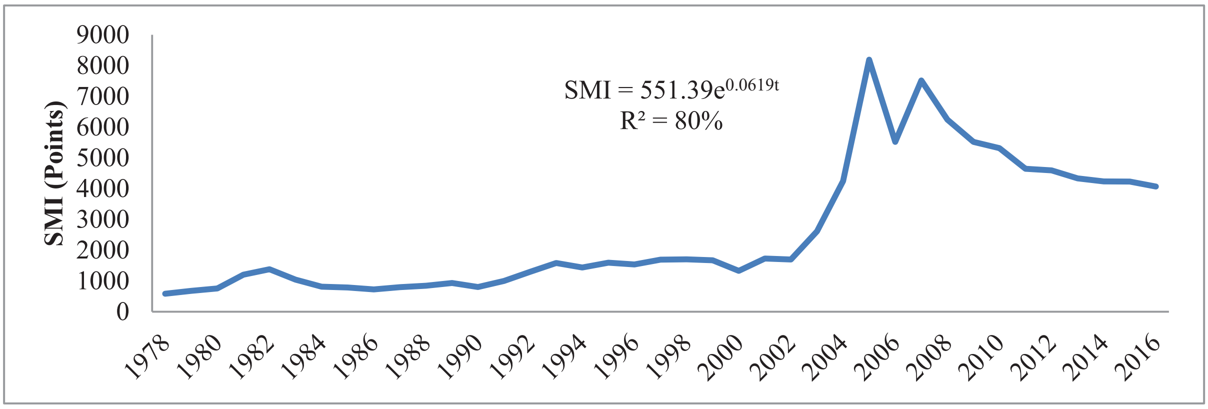

Figure 3. Stock Market Index for the (1978-2016) Period

Source: ASE (2013), available on line at: http://www.ase.com.jo/en/major-financial-indicators, Accessed on 2-7-2013

Besides, new monetarypolicywas adoptedin the ASEsince 2000; for example, it implemented an electronic trading system in March 2000 to increase the efficiency in the securities market. This system created a suitable environment for trading and led to a rise of the ASE performance (Bekhet and Al-Smadi, 2015).

3. Literature Review

Many studies confirmed that the financial development plays a significant role in economic growth. Also, the size of financial market contribute to economic many advantages through capital accumulation and technological advancement by boosting savings rate, delivering information about investments, optimizing the allocation of capital, mobilizing and pooling savings, and facilitating and encouraging FDI (Sghaier and Abida, 2013; Hassan et al., 2011; McKinnon, 1973). However, the relationship between SMI and macroeconomic variables (GDP, FDI, M2, IP, CPI and EX) has been investigated in many empirical studies (e.g., Bekhet and Matar (2013) for Jordan, Bekhet1and Mugableh (2012) for Malaysia, Kyereboah, and Agyire, (2008) for Ghana, Li, Iscan, and Xu (2010) for Canada and the United States, Mansor., Ibrahim and Hassanuddeen Aziz (2003) for Malaysia). All these studies have confirmed the significant relationship between SMI and macroeconomic variables.

Some researchers examined the causality between financial market and economic growth. For example,in India and China,Padhan(2007) examined the causality linkages between SMI and economic activity in India, using a Granger causality test for the 1976-2005 period. This study confirmed that there is direction of causality among SMI and the macroeconomic variables. Shan (2003) investigated the relationship between economic growth and financial market in China, using a Granger causality test for the 1978-2001 period. The results showed that there is bi-directional causality between financial market and economic growth. And these studies are confirmed that the well-developed stock market could enhance economic activity.

In South Korea, Hong Kong and the UK,Chaiechi (2012) have studied the relationship between the SMI and macroeconomic variables using quarter time series data for the 1990-2006 period. The results showed that the financial market indicators contributed as expected in improving macroeconomic performance of the South Korean economy. SMI and domestic credit availability are strongly responsible for stimulation of investment, saving and productivity growth in Hong Kong. Also, the UK financial system seems vulnerable to future shocks, whether by shocks in the credit markets or stock markets.

Besides, Caporale, Rault, Sova and Sova (2009) explored the relationship between financial market and economic growth in ten new EU members by estimating a dynamic panel model for the 1994-2007 period. The results showed that the SMI and credit markets are still underdeveloped in these economies. Also, the results of this study are confirmed that there is direction of causality running from SMI to economic growth.

Furthermore, in many other countries in Asian (Philippines, Malaysia, Indonesia, Korea, India, Singapore, Thailand, Taiwan, China and Japan), Hsueh, Hu and Tu (2013) examined the relationship between financial development and economic growth using a panel data causality approach for the 1980-2007 period. This study has confirmed that there is uni-directional of causality between financial market and economic growth. Also, this study has found unidirectional Granger causality from financial market to economic growth in the cases of Malaysia, Indonesia, Korea, Singapore, Thailand, Taiwan and China.

In general, many other study have examined the relationship between macroeconomic variables and stock market indices using time series model and confirmed that the that macroeconomic variables significantly change stock market indices (See,.., Bekhet and Mugableh; Agrawalla and Tuteja, 2008;Buyuksalvarci and Abdioglu, 2010;Hosseini et al., 2011;Patra and Poshakwale, 2006; Wong et al., 2006).As discussed above the existing literatures, there are given conflicting results about the relationship between SMI and the variables of the current study (i.e., GDP, FDI, M2, IP, CPI, EX). Thus, to achieve the objectives of the current paper, it could be formulating the following hypotheses:

H_1: There are significant long-runequilibrium relationshipsbetween SMI and (i.e., GDP, FDI, M2, IP, CPI, EX) in Jordan.

H_2: There are significant short-run equilibrium relationships between SMI and (i.e., GDP, FDI, M2, IP, CPI, EX) in Jordan

4. Data Sources and Model Specification

Annual time series data was used and collected for the (1978-2017) period. However, it was obtained from different sources. SMI were collected from the ASE database (http://www.ase.com.jo). The (GDP, FDI and M2) variables were collected from the World Bank (http://www.worldbank.org). The (IP, CPI, EX) variables were selected from CBJ database (http://www.cbj.gov.jo).Furthermore, all the variables transformations into natural logarithmic (L) to reduce the hetrosecedasticity problem and to obtain the growth rate of the variable (Bekhet and Al-Smadi, 2017; Bekhet and Matar, 2012b; Montgomery et al., 2008; Chen et al., 1986), except EX to make this variable simultaneous with other variables (Bekhet and Mugableh, 2012). This study used Micro-fit 4.1 and E-views 7.2 statistical packages for analysis.Thus, followed the empirical literature, it is plausible to form the long-run, short-run as in Equation (1):

$$LSMI_t = \mu + \alpha_1 LGDP_t + \alpha_2 LFDI_t + \alpha_3 LM2_t + \alpha_4 LIP_t + \alpha_5 LCPI_t + \alpha_6 EX_t + \varepsilon_t \qquad (1)$$

where μ is the intercept, t is the time period, while ε stands for a residual or error term that is assumed to be normally distributed and α_is (i= 1,…., 6) are the coefficients of the variables.

5. Econometric Framework

Several studies confirmed that if the time series data are not stationary, the regression analysis would not be true or spurious regression (Bekhet, Yasmin and Al-Smadi, 2017; Gujarati and Porter, 2009). Also, the choosing the appropriate time-series model depends on the results of stationarity and co-integration tests (Bekhet and Matar, 2013; Pesaran et al., 2001). However, in the current study the augmented Dickey-Fuller (ADF) [1979,1981] and Phillips-Perron (P-P) [1989] and Kwiatkowski, Phillips, Schmidt and Shin (KPSS) [1999] statistical tests are used to detect the level of stationarity either at I(0), I(1) or I(d) to selected the appropriate time-series model.

To achieve the objectives of the current study, the Autoregressive Distributive Lag (ARDL) bounds testing model, developed by Pesaran et al. (2001) is utilized. This model facilitates testing for the existence of relationships between variables at various levels of stationary data I(0) and I(1) or both; it presents better results for a small sample data set as compared to other techniques for co-integration (see also Pesaran and Shin, 1999). Furthermore, it is an unrestricted error correction model (UECM), it can take the appropriate lag selection which can specify the framework from general to specific without losing any long-run information, and can help to eliminate the problem of serial correlation and endogenous variables (Hamdi et al., 2014; Chandran and Munusamy, 2009; Pesaran and Shin, 1999).Generally, the variables will be co-integrated if they have a long-run or equilibrium relationship among each other (Bekhet and Mugableh, 2012). Thus, to examine the long run relationship between SMI and the variables of the current study (i.e., GDP, FDI, M2, IP, CPI, EX) ARDL model could be formulated as in Equation. (2).

$$\begin{bmatrix} \Delta LSMI \\ \Delta LGDP \\ \Delta LFDI \\ \Delta LM2 \\ \Delta LIP \\ \Delta LCPI \\ \Delta EX \end{bmatrix}_t = \begin{bmatrix} \alpha_1 \\ \alpha_2 \\ \alpha_3 \\ \alpha_4 \\ \alpha_5 \\ \alpha_6 \\ \alpha_7 \end{bmatrix} + \begin{bmatrix} \eta_{11} & \eta_{12} & \eta_{13} & \eta_{14} & \eta_{15} & \eta_{16} & \eta_{17} \\ \eta_{21} & \eta_{22} & \eta_{23} & \eta_{24} & \eta_{25} & \eta_{26} & \eta_{27} \\ \eta_{31} & \eta_{32} & \eta_{33} & \eta_{34} & \eta_{35} & \eta_{36} & \eta_{37} \\ \eta_{41} & \eta_{42} & \eta_{43} & \eta_{44} & \eta_{45} & \eta_{46} & \eta_{47} \\ \eta_{51} & \eta_{52} & \eta_{53} & \eta_{54} & \eta_{55} & \eta_{56} & \eta_{57} \\ \eta_{61} & \eta_{62} & \eta_{63} & \eta_{64} & \eta_{65} & \eta_{66} & \eta_{67} \\ \eta_{71} & \eta_{72} & \eta_{73} & \eta_{74} & \eta_{75} & \eta_{76} & \eta_{77} \end{bmatrix} \begin{bmatrix} LSMI \\ LGDP \\ LFDI \\ LM2 \\ LIP \\ LCPI \\ EX \end{bmatrix}_{t-1} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_7 \end{bmatrix}_t \qquad (2)$$

where, Δ is the first difference operator, αis represent the intercepts, η_{ij}s denote the long-run coefficients of the variables, ε_{it}s denote the error terms that are normally distributedand i,j=1,….., 7.

However, the H0 of no co-integration is tested by applying the bounds F-statistics value, H_0: η_{ij}s = 0. The decision rule is based on comparing the calculated F-statistics value with the critical values tabulated in statistical tables (Pesaran and Pesaran, 2009). The co-integrationdecision rules are:

(1) If the calculated F-statistics value are greater than the upper bounds value, I(1), the null hypotheses, H_0: η_{ij}s = 0, no co-integration, would be rejected. This means that all the variables included in the models have a long-run relationships whit each other.
(2) If the calculated F-statistics value falls below the lower bounds value, *I(0)*, the H_0: η_{ij}s = 0, are accepted. Thus, the variables included in the models do not share long-run relationships among themselves.
(3) If the calculated F-statistics value falls in the range *I(0)* ≤ F-statistics value ≤ *I(1),* the decisions are inconclusive to either accept or reject the long-run relationship.

Finally, equation (3) shows the mathematical form toobtain the short-run dynamic parameters and estimating the error correction model(ECM_{t-1}) associated with the short-run estimates (Pesaran et al., 2001).

$$\begin{bmatrix} \Delta LSMI \\ \Delta LGDP \\ \Delta LFDI \\ \Delta LM2 \\ \Delta LIP \\ \Delta LCPI \\ \Delta EX \end{bmatrix}_t = \begin{bmatrix} \theta_1 \\ \theta_2 \\ \theta_3 \\ \theta_4 \\ \theta_5 \\ \theta_6 \\ \theta_7 \end{bmatrix} + \sum_{s=0}^{k} \Delta \begin{bmatrix} \Pi_{11} & \Pi_{12} & \Pi_{13} & \Pi_{14} & \Pi_{15} & \Pi_{16} & \Pi_{17} \\ \Pi_{21} & \Pi_{22} & \Pi_{23} & \Pi_{24} & \Pi_{25} & \Pi_{26} & \Pi_{27} \\ \Pi_{31} & \Pi_{32} & \Pi_{33} & \Pi_{34} & \Pi_{35} & \Pi_{36} & \Pi_{37} \\ \Pi_{41} & \Pi_{42} & \Pi_{43} & \Pi_{44} & \Pi_{45} & \Pi_{46} & \Pi_{47} \\ \Pi_{51} & \Pi_{52} & \Pi_{53} & \Pi_{54} & \Pi_{55} & \Pi_{56} & \Pi_{57} \\ \Pi_{61} & \Pi_{62} & \Pi_{63} & \Pi_{64} & \Pi_{65} & \Pi_{66} & \Pi_{67} \\ \Pi_{71} & \Pi_{72} & \Pi_{73} & \Pi_{74} & \Pi_{75} & \Pi_{76} & \Pi_{77} \end{bmatrix}_s \begin{bmatrix} \Delta LSMI \\ \Delta LGDP \\ \Delta LFDI \\ \Delta LM2 \\ \Delta LIP \\ \Delta LCPI \\ \Delta EX \end{bmatrix}_{t-s} + \begin{bmatrix} \lambda_1 \\ \lambda_2 \\ \lambda_3 \\ \lambda_4 \\ \lambda_5 \\ \lambda_6 \\ \lambda_7 \end{bmatrix}_s \begin{bmatrix} ECM_1 \\ ECM_2 \\ ECM_3 \\ ECM_4 \\ ECM_5 \\ ECM_6 \\ ECM_7 \end{bmatrix}_{t-1} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_7 \end{bmatrix}_t \quad (3)$$

where Δ is the first difference operator, θ_is represents the intercepts, Π_{ij}s denote the short-run coefficients; λ_is represents the coefficients of the error correction model (ECM_{t-1}) that are used tolink the long-run and short-run equilibrium among the variables; k represents the lag length; s is the lag order and i,j=1,….., 7.

6. Empirical Results

6.1 Data Quality, Stationarity and Co-integration Results

Table 1 shows the quality data testing and interrelationship matrix results. The results show that all the study variables LSMIt, LGDPt, LFDIt, LM2t, LIPt, LCPIt and EXt are normally distributed with zero mean and constant variance (εts ~ N(0, σ2)). These results are confirmed by Skewness and Jarque–Bera normality tests. The results show that all the variables are in acceptance range of correlation coefficients. Also, there is a positive and significant interrelationship between the study variables. These mean that there is no possibility of negative effects of multicollinearity (Bekhet and Al-Smadi 2015; Hamdi et al. 2014).

Table 1. Data Quality Test results

Variable	$LSMI_t$	$LGDP_t$	$LFDI_t$	$LM2_t$	LIP_t	$LCPI_t$	EX_t
Mean	7.55	22.3	18.4	22.4	7.18	4.01	0.60
Median	7.37	22.3	18.5	22.3	7.05	4.14	0.70
Maximum	9.01	23.1	21.6	24.2	8.48	4.76	0.70
Minimum	6.37	21.4	14.4	20.2	6.04	2.90	0.29
Std. Dev	0.78	0.48	2.14	1.14	0.78	0.54	0.16
Skewness	0.33	0.16	0.01	-0.05	0.33	-0.38	-1.02
Kurtosis	1.75	1.95	1.49	2.05	1.78	2.00	2.17
J-B	3.27	1.94	5.12	1.46	3.12	2.55	7.97
Probability	0.19	0.37	0.30	0.48	0.20	0.27	0.11
$LSMI_t$	1.00						
$LGDP_t$	0.89	1.00					
$LFDI_t$	0.87	0.87	1.00				
$LM2_t$	0.89	0.90	0.84	1.00			
LIP_t	0.90	0.89	0.81	086	1.00		
$LCPI_t$	0.86	0.90	0.79	0.88	0.86	1.00	
EX_t	0.68	0.71	0.62	0.76	0.70	0.87	1.00

Note. J-B denotes Jarque-Bera statistic test for each model. The H_0 of non- normality is rejected if the values of J-B test ＞ 10%.

Source: Output of the E-Views 7.2 econometric software.

The results of the ADF unit root test shows that all the variables are stationary at I(1) with the constant and trend at different significant levels (1%, 5% and 10%), except that the $LGDP_t$and $LFDI_t$ variables are stationary at I(0) and I(1). Also, these results are confirmed by the results of P-P unit root test. Moreover, the results of the KPSS unit root test indicate that all the variables are stationary at I(0) and I(1) with the constant and trend at 1%, 5% and 10% significant levels (see Table 2).

The results of ADF, P-P and KPSS tests are consistent with other many findings such as, Bekhetand Al-Smadi (2015) for Jordan;Bekhet and Matar (2013a) for Jordan; Bekhet and Mugableh (2012) for Malaysia;Ariff et al. (2012) for Canada; Ibrahim and Aziz (2003) for Malaysia. Generally, as the result of this tests confirmed that all the variables are stationary at I(1) the bounds F-statistics test would be utilized to test whether the variables are co-integrated or not.

Table 2. Stationary Test Results

Variables	ADF		P.P		KPSS		Decision
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
$LSMI_t$	-2.07	-7.54^a	-2.09	-7.57^a	0.44^a	0.12^c	I(1)
$LGDP_t$	-3.61_b	-5.70^a	-3.77_b	-5.77^a	0.33^a	0.24^b	I(1)
$LFDI_t$	-3.37^c	-6.12^a	-3.30_c	-6.31^a	0.56^a	0.30^c	I(1)
$LM2_t$	-2.14	-3.95^b	-2.34	-4.31^a	0.52^a	0.13^c	I(1)
LIP_t	-3.16	-5.35^a	-3.03	-5.07^a	0.62^a	0.18^b	I(1)
$LCPI_t$	-2.20	-4.23^b	-2.76	-4.45^a	0.41^a	0.13^c	I(1)
EX_t	-3.13	-4.42^a	-3.17	-5.84^a	0.58^a	0.20^b	I(1)

Notes. (1) a,b and c denotes statistically significance at 1%, 5% and 10% levels. (2) H0 for ADF and P-P tests are rejected if the variables have unit root. (3) H0 for KPSS test is rejected if the variables stationary. (4) The critical values for the ADF test are (-4.25), (-3.55) and (-3.21) at the 1%, 5% and 10% significance levels, respectively. (5) The critical values for the P-P test are (-4.24), (-3.54) and (-3.20) at the 1%, 5% and 10% significance levels, respectively. (6) The critical values for the KPSS test are (0.21), (0.14) and (0.11) at the 1%, 5% and 10% significance levels, respectively.

Source: Output of the E-Views 7.2 econometric software.

The results of the co-integration among the variables are shown in Table 3. These findings are determined by the F-statistic test.

Table 3. Co-integration Test Results

Models	F-statistic	Bound Critical Values			Decisions
		1%	10%	5%	
		I(0), I(1)	I(0), I(1)	I(0), I(1)	
$LSMI_t$	5.19^a	3.50, 5.12	2.61, 3.86	2.21, 3.31	Co-integration
$LGDP_t$	4.17^b	3.50, 5.12	2.61, 3.86	2.21, 3.31	Co-integration
$LFDI_t$	3.74^c	3.50, 5.12	2.61, 3.86	2.21, 3.31	Co-integration
$LM2_t$	2.61^c	3.50, 5.12	2.61, 3.86	2.21, 3.31	Inconclusive
LIP_t	2.89^b	3.50, 5.12	2.61, 3.86	2.21, 3.31	Inconclusive
$LCPI_t$	2.31^c	3.50, 5.12	2.61, 3.86	2.21, 3.31	Inconclusive
EX_t	1.78	3.50, 5.12	2.61, 3.86	2.21, 3.31	No- integrated

Notes. (1) the F-statistics critical values were retrieved from (Narayan (2005), Case II). (2)a, b and c denotes statistically significance at 1%, 5% and 10% levels.

Source: Output of computed F-statistics values were obtained from Micro-fit 4.1 econometric software packages.

Table 3 shows that the H0 of no co-integration among the variables in the $LSMI_t$ model is rejected at 1% significance level, while it rejected among the variables in $LGDP_t$ model at 5% significance level. Also, the H0 of no co-integration among variables in the $LFDI_t$ model is rejected at 10% significance level. Furthermore, the calculated F-statistics value in the $LM2_t$, LIP_t, and $LCPI_t$ models falls in the range I(0) ≤ F-statistics value ≤ I(1) at the 5% and10 % significance levels respectively.In this case, the error correction term (ECM_{t-1}) is a useful way of establishing the co-integration among the variables in the model and confirming it with past studies (Bekhet and Al-Smadi, 2016; Boutabba, 2014; Banerjee et al., 1998; Kremers et al., 1992). The results of the co-integration among the variables in the model ($LSMI_t$, $LGDP_t$, $LFDI_t$, $LM2_t$, LIP_t, $LCPI_t$, and EX_t) are consistent with the findings of Bekhetand Al-Smadi, (2015) for Jordan; Bekhet and Matar (2013b) for Jordan; Bekhet and Mugableh (2012) for Malaysia; Ibrahim and Aziz (2003) for Malaysia.

6.2 Long and Short Run Results

Several studies confirmed that, if the co-integration relationship among the variables in model is warranted tthen the long run and short run relationship between the study variables can be utilized (Bekhet and Al-Smadi, 2015; Khan et al., 2014; Uddin et al., 2013). However, the number of lag should be detected by depending on the lowest values of Hannan-Quinn information criterion (HQ), Schwarz information criterion (SC), Akaike information criterion (AIC) and Final prediction error(FPE) criteria. Also, it could use the likelihood ratio (LR) (sequential modified) test as a primary determinant of how many lags to be included (Pesaran et al., 1999; Granger, 1981). However, the results confirm that the optimal lag length (k) is one lag.Table 4 presents the estimation of the long run and short run coefficients for the variables in the $LSMI_t$model. It shows a significance long-run and short run relationship among the variables at 1%, 5% and 10% levels.

Table 4. Long – Run and Short -Run Results

Model = $LSMI_t$			
Long Run-Results			
Variables	**Coefficient**	**t-Statistic**	**Sig. level**
$LGDP_t$	2.69^a	5.43	0.00
$LFDI_t$	1.51^b	2.01	0.06
$LM2_t$	0.31	1.21	0.23
LIP_t	0.57^a	6.93	0.00
$LCPI_t$	-2.40^a	-3.21	0.00
EX_t	4.54^a	4.49	0.00
Constant	-43.7^a	-5.39	0.00
Short Run-Results			
$\Delta LGDP_t$	2.17^a	4.67	0.00
$\Delta LFDI_t$	2.28^b	2.01	0.05
$\Delta LM2_t$	0.81^c	1.72	0.08
ΔLIP_t	0.46^a	6.18	0.00
$\Delta LCPI_t$	-1.93^a	-3.22	0.00
ΔEX_t	1.49^a	2.06	0.00
Constant	-35.3^a	-8.03	0.00
ECM_{t-1}	-0.80^a	-8.03	0.00

*Notes***.** (1)a, b and c denote statistically significance at 1%, 5% and 10% levels, respectively; (2) multiplier test of residual serial correlation = 0.252; (3) autoregressive conditional heteroskedasticity test = 2.82; (4) Normality test = 3.03; (5) RESET test using the square of the fitted values = 0.006; (6) F-statistics = 12.93; (7) R^2 = 76%; (8) Durbin Watson = 1.96.

Source: The Output of the Long, short-run and ECMt-1coefficients analyses were retrieved from Micro-fit 4.1 econometric software.

Table 4 shows that in the long run the all the coefficients results have a correct sign as discussed by several empirical studies see Bekhet and Matar (2013b) for Jordan; Bekhet and Mugableh (2012) for Malaysia; Ibrahim and Aziz (2003) for Malaysia. However, the results report that there is a positive relationship betweenLSMIt model and (LGDPt, LIPt and EXt) variables at 1% significance level, which means that an increase of SMI would definitely lead to increasing the (GDP, IP and EX). This result is confirmed by the finance literature suggesting that emerging and developed financial markets might be able to promote economic growth (Bekhet and Matar, 2013b;Hussain, 2011;Gosnell and Nejadmalayeri, 2010; De Gregorio and Guidotti, 1995; Kirman, 1992; Chen et al., 1986).

Also, the result shows that the $LSMI_t$ model has a positive relationship with $LFDI_t$ variable at 5% significance level. This is because,FDI can fuel the development of financial systems through different channels. First, FDI can be conducive to the participation of firms in the capital markets, since foreign investors might want to finance part of their investment with external capital or might want to recover their investment by selling equity in capital markets. Second, given that foreign investors partly invest through purchasing existing equity, the liquidity of the stock markets will likely rise (Bekhet and Al-Smadi, 2014; Errunza, 1983). The result also, confirmed that the relationship between LSMIt model and LCPIt is negatively. These results are supported by Fama (1990); Geske and Roll (1983) and Chen et al. (1986), who hypothesized a similar significant relationship through the effects of macroeconomic variables on SMI and consistent with the findings of Bekhet and Matar (2013a) for Jordan; Bekhet and Mugableh (2012) for Malaysia.

Furthermore, Table 4 presents the results of the short-term dynamics equilibrium relationship between the $LSMI_t$ and the study variables. These results indicated that at 1% significance levels, the variables $\Delta LGDP_t$, ΔLIP_t and

ΔEX_t are positively associated with ΔLSMIt model. However, the ΔLFDIt is positively associated with ΔLSMIt model at 5% significance levels, while the ΔLM2t is positively associated with $\Delta LSMI_t$ model at 10% significance levels. Therefore, the result confirm that there is a negatively relationship between the $\Delta LCPI_t$ and $\Delta LSMI_t$ model at 1% significance levels.In addition, the coefficients of ECM_{t-1} are significant with appropriate signs in absolute value with -80%. This implies that this model ΔLSMIt is corrected from the short-run towards the long-run equilibrium by 80%. Also, this means that the long-run would be shortly corrected back by 1.2 year.

The results of stability tests of the LSMIt model, such as CUSUM and CUSUMQ are shown in Figure 4. The results of CUSUM and CUSUMQ tests confirmed that the co-integration estimates are reliable and consistent (Shahbaz et al., 2013) because both diagrams are within critical bounds at 5percent level of significance.

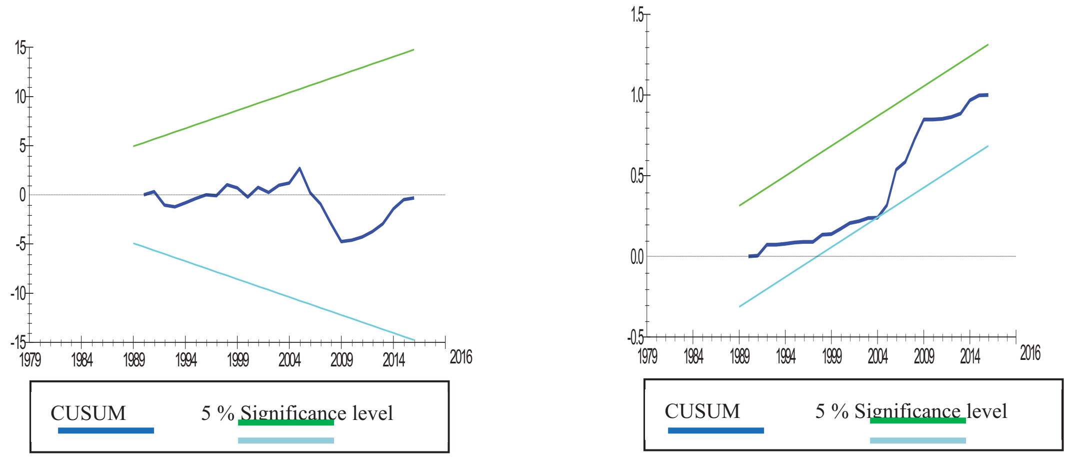

Figure 4. LSMIt model CUSUM and CUSUMQ for the (1978-2017) period

Note. (1)CUSUM is plot of cumulative sum of recursive residuals.

(2) CUSUMQ is plot of cumulative sum of squares of recursive residuals.

Source: The Output of CUSUM and CUSUMQ were retrieved from Micro-fit 4.1 econometric software.

7. Conclusions

The current study examines the long-run and short-run equilibrium relationships between stock market index and the macroeconomic variables (i.e., GDP, FDI, M2, IP, CPI, EX) in Jordan for the (1978‒2017) period. Methodologically, it utilizes ADF and P.P tests for testing stationarity level. The bounds testing approach was employed to analyse the long-run and short-run relationships among models in the Jordanian economy.

In accumulation, the results showed evidence of long-run and short-run relationships among the SMI and the macroeconomic variables. In addition, the results of ECM_{t-1} coefficients were significant with appropriate signs in absolute value with -80%. This implies that this model $\Delta LSMI_t$ is corrected from the short-run towards the long-run equilibrium by 80%. Also, this means that the long-run would be shortly corrected back by 1.2 year.

In general, the results of this study are important for policy makers, foreign investors, corporations and academics since they are interested in the relationships among SMI and the macroeconomic variables. However, the results of this study recommend that the Jordanian policy makers have to pay more attention to the current regulation in the ASE and manage it well, thus ultimately helping financial development.Further study should be undertaken with an even wider scope in terms of macroeconomic variables such as interest rate, EO, oil prices and value traded.

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International Standard on Auditing No. 260 and Audit Quality: Evidence from Jordan

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Abstract

This study aims to explore the extent of external auditors awareness of the requirements of the International Standard on Auditing No. 260 (Communications with those charged with governance) on audit quality and to shed light on the effectiveness of the communication process based on auditors actual experience. A mixed method approach was employed to achieve the study objectives. The analysis of 116 questionnaires concluded that the requirements of the ISA 260 enhance audit quality, but the two-way communication between Jordanian auditors and the audit committee is ineffective from external auditor's perception. The study also found that audit committees do not support external auditor when disagreements arise between auditors and their client management on accounting treatments. The qualitative interviews confirmed the quantitative results and revealed several explanations among which: 1) lack of qualified directors, 2) lack of a clear policy in selecting board members, 3) meetings with auditors are routinely held, and 4) insufficient oversight by the securities commission. The interviews also revealed that the recent version of Jordanian corporate governance has two potential factors have been viewed to improve the effectiveness of the communication process that are, the appointment of a 'governance liaison officer' who, among other responsibilities, supervise and document audit committee meetings with the auditor, and the use of cumulative voting technique in selecting board members. The findings of the study could be beneficial for regulators by ensuring the best implementation of cumulative voting to increase the representation of qualified members so that the communication process will be greatly enhanced.

Keywords: audit committees, audit quality, international standard on auditing 260, corporate communications, corporate governance

1. Introduction

The recent version of the International Standard on Auditing No. 260 (Communications with those charged with governance) became valid for periods ending on or after December 15, 2016. The ISA 260 "*deals with the auditor's responsibility to communicate with those charged with governance in an audit of financial statements ... and identifies some specific matters to be communicated with them*" (ISA 260, 2016, para.1 & 2). Therefore, in order to ensure the highest level of effective communication between auditors and those charged with the company governance, it is important that members of board and the audit committee have sufficient knowledge about the applications of the IFRS because qualified audit committees are viewed as integral to the audit process and provide a great contribution to audit quality (CPAB, 2013).

Greedy and selfish executives prioritize their personal interests over company's goals using creative accounting techniques, where elected external auditors are supposed to resist management pressure to align the outcomes of the financial reporting to their favor. Hence, potential disagreements between independent auditor and the company management arise especially on difficult, subjective, and complex accounting policies and estimates. Complexities in accounting practices, derivatives and the choices between different alternatives of measurement policies, such as the fair value evaluation (Shbeilat & Al-Harasees, 2018), give managers a wide room to manipulate accounting records and to manage earnings and profits as they wish. Goodwin (2002), among others argued that *"an auditor who is concerned that a client may be lost ... succumbing to pressure to accept the client's position. However, from a professional point of view, this would be regarded as a compromise of independence*." (p. 384). Accordingly, much responsibilities have been placed on the vital role of the independent auditor, as the shareholder's agent, in securing financial reporting system (Rahim, Johari, & Takril, 2015).

External auditors who maintain effective communications with a powerful audit committee, play a significant role in mitigating “earning management” (Miko & Kamardin, 2015; Piot & Janin, 2007; Baxter & Cotter, 2009; Chung et al 2005). External auditors may face pressure from the company management to issue favorable opinion. While auditors may opt to modify their opinions in case of disagreements with the company management, they must and required to communicate with those charged with the company governance all key audit matters during engagement period according to the ISA. 260 (Altawalbeh & Alhajaya, 2019).

Jordan was an early reformer in terms of adopting accounting standards, auditing standards, and corporate governance initiatives in the region (Obaidat, 2007; Shehata, 2015; Al-Frijat, 2016). Obaidat (2007) investigated Jordanian auditors’ compliance with the ISAs. A questionnaire was designed by listing all auditing standards and sought auditors’ views about the extent of their compliance with the standards. The study showed that external auditors in Jordan comply with the ISAs with some statistical variance among the standards. Accordingly, the researcher arranged the standards according to the degree of compliance. Standard 260 (Communication of audit matters with those charged with governance) gained the 25th rank among the 32 standards. Therefore, this study seeks to answer the following research questions:

1- To what extent auditors are aware of the importance of the requirements of ISA 260 (Communication with Those Charged with Governance) in improving audit quality?

2- How effective is the communication process between external auditors and those charged with governance from external auditor’s experience?

The study extends the auditor-audit committee communication literature by examining whether the audit committee plays a vital role in resolving disputes with the company executives. The current study also aims to fill the gap of the existent literature by providing evidences about how external auditors communicate with those charged with governance. Given the lack of publicly available qualitative articles and resources on the study topic, this study employed a mixed method approach to bridge the methodological gap in this area of studies. The expected contributions are: (1) Identify the approach applied by auditors in determining "those charged with governance" to communicate with (2) Identify possible strengths and weaknesses of effective communication process, (3) Identify the extent to which audit committees intervene in resolving disputes between auditors and the company management.

2. Literature Review

2.1 Audit Quality

Audit quality literature have identified several determinants of audit quality such as compliance with international standards on auditing, industry knowledge, audit committee effectiveness, auditor’s independence, the provision of non-audit services, audit tenure, corporate accountability, audit firm size, and audit firm reputation (Ghafrana & O’Sullivan 2017; Carcello et al, 1992; Zgarni et al, 2016; DeAngelo, 1981; Amahalu et al, 2018; Suyono, 2012; Al-Khaddash et al, 2013). Several studies with different methods were conducted to measure determinants of the audit quality, however, none of the previous studies succeeded in introducing a generally accepted definition of the audit quality (Montenegro & Brás 2018; Knechel et al, 2013; Beattie et al, 2013).

Finding the right definition of the study variables not just helps in conducting the study, it also ensure gaining more accurate results. Due to the lack of a universally accepted definition of the audit quality, the majority of audit quality researches tend to have quantitative archival approach to provide more factual results (Beattie et al, 2013). However, Beattie et al, (2013) mentioned two drawbacks of quantitative archival empirical research, (1) it does not provide a clear causal relationship between the study variables and (2) the difficulty of finding the appropriate variables as a proxy for audit quality which may also expose the study to the ‘risk of omitted variables’, therefore they developed a questionnaire of 36 factors derived from the UK regulations to investigate their impact on audit quality post-SOX enactment, the study adopted the definition of the FRC (2006), and the main conclusion obtained from perceptions of CFOs, audit committee chairs, and external auditors showed that effective audit committee communications with external auditors is among the most prominent factors enhancing audit quality.

The current study adopts the definition provided by the Audit Inspection Unit (AIU) of the UK Financial Reporting Council (FRC). They referred to the concept of audit quality as:

> *“involves obtaining sufficient and appropriate audit evidence to support the conclusions on which the audit report is based and making objective and appropriate audit judgments. ... A quality audit [also] involves appropriate and complete reporting by the auditors which enables the Audit Committee and*

Board properly to discharge their responsibilities". (FRC, 2006, p. 38).

This definition was adopted for both the survey and the interviews. Reasons for this adoptions are: firstly, it comes from a highly regarded institution that carries out annual inspections at the UK audit firms to ensure highest level of audit quality (including the big four), secondly, the definition focuses on the outcome of the audit, the audit performance and the role of those charged with governance on audit quality, and therefore, this definition better serves the objectives of this study.

2.2 Those Charged with Governance

ISA 260 requires external auditors to determine the appropriate members within the entity's governance structure to communicate with taking into consideration the variance of company size and board structure in some jurisdictions. The standard, typically, considers the full board of directors (including executives in case they are members of the board) and the audit committees as the appropriate body to communicate with. For instance, in the USA, there are two sets of auditing standards, the first one issued by the Association of International Certified Professional Accountants (AICPA) which is applicable for the US private companies, and the other one issued by the Public Company Accounting Oversight Board (PCAOB) which is applicable for public shareholding companies and dealers (Arens et al., 2017). The AICPA standard SAS No. 114 "The Auditor's Communication With Those Charged With Governance" superseded SAS 61 "Communication with Audit Committees", the purpose of rewording the title of the standard from the audit committee to those charged with governance is to highlight auditor's responsibility of communicating with those who have the ultimate responsibility of overseeing entity's activity and to increase the scope of the communication process (Sertima, 2008), while the PCAOB's version of the same standard still indicates the audit committee as the governing body that auditors should communicate with. Internationally, the International Standard on Auditing 260, "Communication With Those Charged With Governance" require auditors to identify appropriate individuals to communicate with, in case the auditor decide to communicate with a subgroup of the board, such as the audit committee, the auditor must ensure that communications with this subgroup is sufficient and effective (ISA 260, para 11 & 12).

Apart from auditing standards, internationally recognized corporate governance frameworks and even those for developing countries rest the task of external auditor's communications with the audit committees, see for example (UK Corporate Governance Code, the Australian Corporate Governance Principles, the US SOX, Canadian Corporate Governance Codes and Principles, the Jordanian Instructions of Corporate Governance). This study uses both terms, i.e. "those charged with governance" and the "audit committees" as the body in charged with communications with external auditors. The reason is that external auditors are familiar with communicating with the audit committee since they are legally required to communicate with them, as mentioned in section 3.2, this study targets perceptions of auditors who audit listed companies, which are legally required to form audit committees.

2.3 Communicating about Technical Disputes with the Company Management

Several previous studies have affirmed the vital role of audit committees in supporting external auditor especially when disagreements arise between auditors and their client management on accounting policies, estimates and the appropriate application of accounting standards (Park 2018; Brown & Popova 2015; Ng & Tan 2003; Knapp 1985; Knapp 1987; Stewart & Munro 2007; Brown-Liburd et al, 2016; Goodwin-Stewart & Kent 2006; Salleh & Stewart 2012)

Two early prominent empirical studies investigated auditor's ability to resist management pressure when technical disputes arise conducted by Knapp (1985) & (1978). Knapp (1985) employed a full-factorial experiment using repeated measures technique and developed an experimental questionnaire of 16 randomly-ordered cases distributed to senior loan officers in the USA and sought their perceptions on factors affecting auditor's ability to resist management pressure. The study concluded that the outcome of conflicts tends to be in client's favor for companies with good financial condition and when the nature of the conflict is not dealt with precisely by the accounting standards. It is worth mentioning that Knapp's (1985) study has not addressed the role of the audit committee communications with auditors, however, two years later, with the same methodology, Knapp (1987) investigated factors affecting audit committee members in supporting external auditors when a disagreements arise during the audit engagement. The results of 179 experimental questionnaire distributed to audit committee members showed that audit committees do support auditors in disputes with the company management. The major factors that increase the likelihood of audit committee support are: member's background as an officer of other listed companies, the degree of objectivity of the issue according to accounting standards, and when the financial position of the company is weak. Interestingly, the latter finding implies a possible explanation of Knapp's (1985) finding that the outcome of conflicts tends to be in auditor's favor for companies with weak financial condition due to the intervention of the audit committee.

Another experimental evidence from Australia, found that effective communications, based on frequent meetings, between auditor and audit committee improves audit quality and reduces audit risks, the study also pointed out that audit committee assistance in resolving disputes also enhances audit quality (Stewart & Munro 2007). Further 2 × 2 between-subjects experiment study conducted by Brown and Popova (2015) to investigate the interaction of 'management incentives' and 'audit committee communication on auditor judgment', revealed that with a higher executive incentives the audit committee communication with auditors play significant role in enhancing audit quality in terms of accumulating and evaluating sufficient and appropriate audit evidences.

In the same context, another experimental studies sought perceptions of CFOs about executive techniques in affecting audit negotiation showed that effective communication between audit committees and auditors lessens management pressure on auditors and mitigate management's use of the personal relationship with the auditor that result from the length of the audit period (Brown-Liburd et al, 2016; Brown-Liburd & Wright, 2011) and also pointed out that strong audit committee make the company management less aggressive in negotiating audit judgments. Further experimental finding by Hatfield et al (2011) suggested that a higher management pressure reduces auditor's proposals of necessary accounting adjustments, thus, the need for effective communication with the audit committee is necessary to support the auditor's position.

A quantitative study in Australia by Goodwin-Stewart & Kent (2006) found that effective communications between powerful audit committees and auditors result in higher audit fee confirming the argument that audit committee's support motivates auditors to exercise a higher level of assurance. A qualitative evidence from Malaysia resulted from interviewing audit committee members, external auditor and CFOs revealed that audit committees play a mediator role in resolving material technical issues between auditors and managers (Salleh & Stewart 2012). Finally, Park (2018) developed two regression models based on data obtained from the Korean stock market and concluded that the presence of strong audit committee, together with the compliance with effective audit committee charter mitigates management pressure on auditor's related decisions and enhances audit quality.

3. Method

3.1 Mixed Method

To achieve the objectives of the study and to answer the study research questions, a mixed method approach was employed for this study. The parallel mixed method approach is the technique utilized for this study; this means that data collection and analysis for both the quantitative and the qualitative method will be conducted concurrently. The use of multiple methods produces robust findings by combining the advantages of both methods and by neutralizing some of the deficiencies of certain method (Jick, 1979), and "*turns possible to overcome the limitations of quantitative and qualitative methodologies, allowing the researcher to get rich information that could not be obtained using each method alone*" (Almeida, 2018, p. 137). The mixed method also increases the generalizability of the study outcomes, provides comprehensive vision of the phenomena being studied, and helps in obtaining sufficient insights for better interpreting participants' perceptions (Bazeley, 2015; Greene & Caracelli, 1997; Plastow, 2016; Borkan, 2004; Tashakkori & Teddlie, 2010).

Finally, meeting the study objectives and answering its questions are better achieved in mixed methods (Bazeley, 2015). "*Using a mixed method approach provides the best opportunity for addressing research questions*" (Malina et al, 2011 p. 60). Therefore, since the study research questions might not be addressed properly using one approach alone, the mixed method is a better choice for this study; for instance, the quantitative approach can answer the first study research question (RQ.1) properly, but cannot do the same for the second research question (RQ.2) and vice versa.

RQ.2 mainly aims at exploring how effective is the communication process between the auditors and those charged with governance from auditors own experience?, an in-depth interview can bring closer insights about potential factors that may affect the effectiveness of the communication process, especially with the help of the follow-up questions. While exploring the impact of the application of the International Standard on Auditing No. 260 on audit quality (RQ.1) can be properly answered using the quantitative approach, however, mixing the two approaches also helps in increasing the generalizability of the study findings. The final step is integrating the mixed methods outcomes to facilitate interpreting the findings of each other and to help infer conclusions.

As mentioned earlier in section (2.1), this study adopted the definition provided by the UK Financial Reporting Council (FRC) for both the survey and the interviews.

3.2 Research Instrument & Interview Protocol

Both the questionnaire statements and the interview questions were developed from the requirements of ISA 260, the recent version of the Jordanian corporate governance instructions of 2017, and from the related literature. The respondents were informed about the objectives of the study, the requirements of the ISA 260 and the adopted definition of audit quality.

The first draft of both the questionnaire and the interview protocol were sent to three academicians in auditing and three external auditors. Minor comments were received and considered for the final versions. The first section of questionnaire requests demographic background focusing on their experience as external auditors, the gender and their position in the audit firm. Section B presents questionnaire statements to examine the impact of the requirements of the International Standard on Auditing No. 260 on audit quality and to investigate possible strengths and weaknesses that may affect the effectiveness of the communication process between auditors and those charged with the company governance. Respondents are required to indicate their opinion based on the five-scale Likert measurement that ranges from Strongly Disagree to strongly agree as following:

(5 - Strongly agree), (4 - agree), (3 - neutral), (2-disagree), (1 - strongly disagree).

In conjunction with the quantitative approach, 10 interviews were conducted with external auditors to investigate their viewpoints about the effects of the requirements of ISA 260 on improving audit quality and to investigate the effectiveness of communications process between auditors and those charged with governance, further, the interviews sought to explore strengths and weaknesses that affect the effectiveness of the communication. The interviews were pre-arranged by telephone and the duration of the interviews lasted from 37 to 48 minutes.

Main questions asked to participants during the interviews are:

- According to the requirements of ISA 260 who are the persons or committees within the entity's governance structure that you consider appropriate to communicate with?
- How does your assessments of the requirements of ISA 260 (Communication with Those Charged with Governance) affect your perception in improving audit quality?
- How effective is the actual communication process between external auditors and those charged with governance based on your own experience in practice?
- Do audit committees support you in case a disagreement arises between you and the executive management on the appropriate application of accounting standards?
- What are the possible strengths and weaknesses that may affect the effectiveness of the communication process?

Furthermore, several follow-up questions were asked to get deeper insights from respondents to serve the purpose of the study

3.3 The Study Unit of Analysis

The study unit of analysis for both the questionnaires and interviews are external auditors who have had experience in auditing listed companies. The choice of external auditors as the study sample is because the Jordanian corporate governance instructions as well as all international corporate governance require external auditors to communicate all matters related to auditing and financial reporting with the audit committee, therefore external auditors were seen as the most appropriate study sample to answer the study questions.

According to the website of Jordanian Association of Certified Public Accountants the number of licensed and audit practitioners is 415 (Accessed on August 2, 2018). The study sample was derived based on the formula of Mason, Gunst, & Hess, (2003) as following:

The study population / [1+ (study population * study' moral level square)]. Therefore, the study sample is = 415 / (1 + (415 * 0.0025)) = 203. This, however, also corresponds to a very high degree with the suggested table of "sample size for a given population size" by Sekaran's (2003, p. 294). Early July 2018, 203 questionnaires were distributed randomly to the targeted external auditors. 116 usable responses were received giving a response rate of 57%.

4. Findings and Discussion

4.1 Quantitative Results & Discussions

Table 1 presents the practical experience of the respondents as a licensed certified public accountant, it can be seen from the table 1 that the average of respondent's experience in auditing is around Ten years. The other classification of respondents is their position in the audit firm; 37% Junior & semi-senior auditor, 52% senior auditor, 10% Manager and 1% partner. With 10 years average of experience as licensed auditor and a large number of positions higher than "junior" the viewpoints of respondents are, arguably, considered adequate to achieve the objectives of this study.

Table 1. Participant's Experience as a licensed auditor

Statistics	Experience as a licensed auditor (Years)
Average	9.73
Median	9
Minimum	5
Maximum	18

Table 2 and part of the interview questions addresses research question 1. Table 2 indicates that means of sample subjects' responses that measure the importance of the requirements of ISA 260 on improving audit quality ranged between (3.75 -4.54) with standard deviations (1.338 and .638) respectively. In this study, three ranks are used that are "high", "medium or moderate" and "low" with an interval of 1.33 between the ranks. The results indicate high degrees of sample's agreement. The general mean = 4.041 also confirms that Jordanian external auditors are aware of the importance of the requirements of ISA 260 (Communication with Those Charged with Governance) on improving audit quality. The table also shows that statement number 12 "Communicating outstanding significant matters, that haven't been addressed by the company management, with those charged with governance" obtained the highest rank in improving audit quality. This, however, reflects a clear commitment by the auditors to the importance of communicating key audit matters to those charged with governance as required by auditing standards.

Table 2. Means, Standard deviations, Ranks and Degrees of sample responses regarding the importance of the requirements of ISA 260 on improving audit quality

Item No.	Statements	Mean	Standard Deviation	Rank	Degree
1	Determining the appropriate members within the entity's governance structure to communicate with	3.75	1.338	21	High
2	Communicating with independent non-executive persons within the entity's governance structure	3.94	1.218	15	High
3	Identifying auditor's responsibilities, in relation to auditing financial statement, with those charged with governance.	4.16	.966	6	High
4	Identifying management's responsibilities, in the preparation of the financial statement, with those charged with governance.	4.01	.716	12	High
5	Identifying the responsibilities of those charged with governance in overseeing the preparation of the financial statement.	3.88	1.031	16	High
6	Obtain information relevant to the audit from those charged with governance.	4.22	.770	3	High
7	Identifying scope and timing of the audit with those charged with governance.	3.97	1.318	13	High
8	Communicating auditor's views about significant accounting practices, policies, and estimates.	4.38	.718	2	High
9	Communicating scope limitations in the audit with those charged with governance.	3.78	1.037	19	High
10	Communicating significant difficulties encountered during the audit with those charged with governance.	3.85	1.073	17	High

11	Communicating significant matters and circumstances that may require modifications to the standard audit report.	4.06	1.015	10	High
12	Communicating outstanding significant matters, that haven't been addressed by the company management, with those charged with governance.	4.54	.638	1	High
13	Discussing management's response to the written auditor's observations with those charged with governance.	4.13	1.220	8	High
14	Communicating auditor's justifications about the appropriateness of accounting practices in conformity with IFRS from the auditor's professional judgment.	3.96	1.042	14	High
15	Discussing auditor's compliance with applicable ethical requirements regarding independence with those charged with governance.	3.77	1.274	20	High
16	Communicating, proportionality of audit fees with audit services provided, with those charged with governance.	4.16	1.223	7	High
17	Communicating justifications and proportionality of non-audit services fees with non-audit services provided, with those charged with governance.	4.0345	1.38269	11	High
18	Communicating auditor's safeguards and measures to mitigate or eliminate identified threats to independence, with those charged with governance.	3.7845	1.03677	18	High
19	Agreeing with those charged with governance on appropriate timing, content and nature of the communication (oral, written).	4.1897	1.25049	4	High
20	Auditor's evaluation of the efficiency of the communication process between the auditor and those charged with governance.	4.1207	1.04802	9	High
21	Documenting all two-way communication between the auditor and those charged with governance and retain them as part of the audit documentation (whether orally or in writing).	4.1724	1.01532	5	High
	General Mean	**4.0411**	**.45808**		**High**

For the purpose of confirming the above mentioned result, one – sample T –Test was also made in table 3 shows the obtained results.

Table 3. Results of T- Test

Mean	Standard Deviation	Df	T - Calculated	Sig
4.04	0.458	115	24.497	0.000

Table (3) indicates that T- calculated value is significant at level (0.05). This means that there is an impact of the requirements of ISA 260 (Communication with Those Charged with Governance) in improving audit quality from external auditor's perception. Finally the Cronbach's alpha was computed to test the the reliability of the study instrument. The value of Cronbach's alpha of the above instrument statements is 0.897 which is higher than the accepted percentage value of (0.70) as indicated by Saunders et al., (2012).

In regard to the second research question, table 4 shows that means of auditors' responses about the effectiveness of the communication process from their own past experience ranged between (1.76 -3.89) with standard deviations (1.381 and 1.369) respectively. The results show different degrees of sample's agreements. The vast majority responses are medium degrees indicating that external auditors perceive that the degree of effectiveness of the communication process with the audit committees is moderate. The Table also shows that statement no. (9) "The audit committee conduct at least one meeting with the external auditor without the presence of the company management" is the only statement with a high degree and ranked the first. The explanation of this high degree is that this kind of meeting is a mandatory requirement of the Jordanian corporate governance. On the other hand, statement no. (10) "Audit committees support external auditor when disagreements arise between the auditor and their client management on accounting policies, estimates and the appropriate application of accounting standards" ranked the last one. The general mean = 3.0973 confirms that Jordanian external auditors perceive that the degree of the effectiveness of the communication process between them and the audit committee is moderate.

Table 4. Means, Standard deviations, Ranks and Degrees of sample responses regarding the degree of the effectiveness of the communication process from their own past experience

Item No.	Statements	Mean	Standard Deviation	Rank	Degree
1	The audit committee discusses all matters related to the nomination of the company external auditors.	2.98	1.620	11	Moderate
2	Audit committees discuss decisions regarding external auditor's retention.	3.35	1.638	8	Moderate
3	Audit committees discuss decisions regarding external auditor's dismissal.	3.39	1.570	7	Moderate
4	Audit committees discuss all decisions regarding the determination of external auditor's fees.	3.28	1.388	9	Moderate
5	Audit committees pre- approve the provision of non-audit services and related fees.	1.93	1.597	12	Low
6	Audit committees discuss the contents of the engagement letter, in terms of auditor's plan, scope and timing, with the external auditor	1.91	1.547	13	Low
7	External auditors have free access to meet audit committee chair and members as necessary.	3.67	1.733	2	Moderate
8	Audit committee members possess necessary related experience in accounting and are financially qualified enough to effectively communicate with external auditors.	3.65	1.551	3	Moderate
9	The audit committee conduct at least one meeting with the external auditor without the presence of the company management.	3.89	1.369	1	High
10	Audit committees support external auditor when disagreements arise between the auditor and their client management on accounting policies, estimates and the appropriate application of accounting standards.	1.76	1.381	14	Low
11	Audit committees discuss and consider external auditor's suggestions and reservations regarding the appropriate applications of the IFRS.	3.42	1.561	5	Moderate
12	The audit committee follows up the extent of management's response to the external auditor's reservations and report outstanding matters to the board.	3.46	1.585	4	Moderate
13	The audit committee reviews and consider external auditor's evaluation of the effectiveness of internal control.	3.40	1.673	6	Moderate
14	The audit committee report to the board of directors internal audit deficiencies based on external auditor's evaluation.	3.27	1.551	10	Moderate
	General Mean	**3.0973**	**1.13164**		**Moderate**

For the purpose of confirming the above mentioned result, one – sample T –Test was made, table (5) shows the obtained results.

Table 5. Results of T- Test

Mean	Standard Deviation	Df	T - Calculated	Sig
3.09	1.316	115	0.926	0.356

Table (5) indicates that T- calculated value is not significant at level (0.05). This means that Jordanian external auditors perceive that the actual communication with the audit committee is ineffective. Finally the Cronbach's alpha was computed to test the reliability of the study instrument. The value of Cronbach's alpha is 0.858 which higher than the accepted percentage value of (0.70) as indicated by Saunders et al., (2012).

4.2 Qualitative Results & Discussions

The qualitative interviews also revealed that external auditors are aware of the importance of the requirements of the ISA 260 (Communication with Those Charged with Governance) on improving audit quality (Research Question 1) confirming the quantitative findings as shown in table (2).

When they asked about the body within the entity's governance structure that they consider appropriate to communicate with, all responses referred to the audit committee.

> *The audit committee is responsible for all matters related to the work of external auditors. Corporate governance instruction clearly stated the roles of the audit committee in overseeing the work of external auditors. (Subject D)*

An important theme emerged from their responses which has positively enhanced entity's compliance with corporate governance instruction is the new requirement of recent Jordanian corporate governance instruction to appoint a "Governance Liaison Officer", because the governance liaison officer coordinates with the Jordanian Securities Exchange regarding company's governance applications.

> *The governance liaison officer informed and reminded us that our meetings with the audit committee will be reported within the governance report of the company annual report. (Subject J)*

In regard to the requirements of the ISA 260, all interviewees affirmed its importance in improving audit quality. This, however, could be explained due to the fact that compliance with the international standards on auditing in Jordan is legal binding for auditors. Respondents revealed that adherence to the requirements of ISAs in general and ISA 260 in particular not only serves audit quality, it also serves the auditors by communicating their responsibilities to those charged with governance. Therefore, they maintain and document all supporting audit evidences and correspondences with both the company executives and those charged with governance.

> *Auditors must document and communicate all significant and key audit matters with the audit committee and the board of directors in order to discharge their responsibility and liabilities towards the shareholders. (Subject I)*
>
> *The new revision of the ISA (700) and ISA (701) require auditors to communicate key audit matters with those charged with governance. This enhances audit quality because outstanding audit matters will be followed up by the board and the audit committee. (Subject A)*

Subjects B,E, F and J raised the point of the of the role of the Jordanian Securities Commission in following up auditor's reservations especially those include doubts about entity's ability to continue as a going concern in the audit report.

> *The Jordanian Securities Commission request listed companies to address auditor's reservations in order not to suspend their shares from trading (Subject F).*

In regard to Research Question (2), the qualitative interviews showed that external auditors perceive that the actual communication process between them and the audit committees, is ineffective which also confirms the quantitative findings as shown in table (4). The Interviews shed lights and provided more insights about the actual communication process. Furthermore, the interviews revealed some important themes emerged from external auditors comments. Table (6) shows the thematic frequency analysis regarding the second research question.

Table 6. Analysis of external auditor’s comments regarding the effectiveness of the communication process from their actual experience

Key Themes Emerged from External Auditors’ Reponses	Frequency	Percentage
Board qualification is not an important factor for selection. Many members appointed because they were public figures, relatives and/or friends.	10	100%
The dominance of family businesses in Jordan on the board of directors and executive positions	8	80%
Cumulative voting.	7	70%
Number and agenda of meetings.	6	60%
Insufficient oversight by the securities commission.	6	60%

The most frequent remarkably theme as shown in Table 6 was the qualifications of the board of directors and the presence of personal reasons for the selecting board members. In fact, there is consensus among auditors that they do not get support from the audit committees when a dispute arise with the company management on accounting treatment and policies. They attributed this, mainly to the weak audit committee's qualifications and experience in the IFRS. A noteworthy comment by subject J means that how can incompetent member in accounting argue and defend his propositions before external auditors.

Who does not have thing cannot give it. (Subject J).

Subject B pointed out that some listed companies select ex-prime ministers, ex ministers, ex-MPs within the board of directors because of friendship relations or because they are from the same political party regardless of their eligibility to perform their duties as a governance and oversight body. Subject J also criticized the culture of appointing well-known public figures for the purpose of facilitating the company operations through their personal relationships rather than their qualifications and technical skills.

Subject H suggested that if, at least one of the audit committee members possess a CPA certificate, then the two-way communication will be much effective and productive, where Subject I stressed that audit committee members should only possess an accounting degree with a minimum of 5 years of experience in accounting (not a degree or experience in other discipline even if they are related disciplines)

There is no real oversight by the securities commission and the other regulating authorities on the qualifications of the members of the audit committees in terms of experience in the preparation of the financial statements, audit and accounting matters. (Subject C).

The securities commission and the JA-CPA must ensure that external auditors’ nomination, retention and fees are determined by a truly independent audit committees, not the CEO. Otherwise, there will be no incremental enhancements to the audit performance. (Subject B).

The Jordanian governance code were concerned with meeting the minimum requirements of independence conditions when selecting the board members, and to meet the minimum requirements of qualification and experience. However, it failed to emphasize interest in other matters such as the actual experience in understanding and applying the international accounting standards.

Comments about the large proportion of the family controlled companies, which characterizes Jordanian capital markets (AlQatamin, 2018b) took a wide room of participant’s discussion. The participants revealed that in some cases they did not feel the distinction between a board member and executive member especially in companies run by a mix of relatives and family members.

While discussing a non-audit service matter with an audit committee member, he asked me to check with the CEO first. (Subject F).

While Subject G pointed out that discussing the provision of some non-audit services with the company managers especially the CFO and the CEO reflects the extent to which the executive managers are overriding the powers of the audit committees.

The nature of family business in Jordan, somehow, removes the barriers between executives and non-executives members. (Subject C)

However, Subjects A, C, D, E and H pointed that in family business model you feel that both the board and the company executives work like a one team, although the board has an oversight role where the managers have an executive and administrative roles. However, Subject A added that the advantage here is the workflow proceeds smoothly when there is no conflicts, but in the case of conflicts and disagreements on accounting or auditing matter we expect no support from the audit committee nor the board.

The nature of appointing board members was heavily criticized by interviewees in comments about possible future enhancements to increase the diversity and the competence of those charged with governance. Some interviewees hope that the cumulative voting, which is supposed to become mandatory this financial year (2019) will play a role in the existence of new blood within the Board of Directors' composition.

> *Cumulative voting expands board diversity and gives small shareholders better chance to represent themselves in the board and oversee the company, this will increase the effectiveness of the board's communication with the auditors as well as the shareholders. (Subject D).*
>
> *Cumulative voting may reduce the dominance of the major shareholders in overriding audit committee decisions, especially those related to the work of the external auditor. (Subject A)*
>
> *We hope that cumulative voting will reduce or limit the presence of members who care about their common interests at the expense of the company's interests. (Subject F)*

External auditor meetings with the audit committees were criticized by subjects B, C, F, G and I. Subject B & I pointed out that number of meetings is insufficient, and also added, together with subjects C, F & G that poor agenda and unqualified members reduces the effectiveness the meetings and the communication process. In addition to that Subject F went further by stating that he gets permission to perform non-audit services from the CEO (not the audit committee), then, however, he gets a formal approval from the chairman of the audit committee who agrees upon the approval of the CEO. Subjects C, G & I mentioned that the recent instructions of the Jordanian corporate governance gave the audit committees the right to report any dispute between their decisions and the decisions of the board of directors in the annual report

> *Board members who were former ministers must change their mentality during their meeting with us, that the public administration is completely different from the private sector (Subject I)*

Subject B

"We conduct only one meeting with the audit committee without the presence of executives to meet the requirements of corporate governance, even if there is no actual agenda of meeting to discuss".

Interviewer*: "corporate governance requires at least one meeting, which means that several meetings could be conducted with the audit committee. Have you ever requested meetings with the audit committee to discuss matters related to accounting or auditing?"*

Subject*: "to my knowledge, we did not ask audit committees to hold any meetings"*

Interviewer*: could you please explain why?*

Subject*: the reason is we solve matters regarding the proper implementation of the IFRS with the CEO, and in some other complex cases we communicate the chairman of the board"*

5. Conclusions & Discussion

This paper investigated the effectiveness external auditor's communication with audit committees and its impact on audit quality. The study main results show that external auditors are aware of the importance of the requirements of the ISA 260 (communications with those charged with governance) in improving audit quality (Research question 1). However, both the quantitative and qualitative results suggested that the communication process was ineffective (Research question 2).

The finding of this study consistent with Obaidat (2007) who found that Jordanian external auditors comply with the ISAs and aware of their importance on audit quality. Although Obaidat's study showed that ISA 260 gained a low rank of compliance, in comparison with the other standards, this however, could be explained to the fact that his study was conducted before the establishment of the first version of the Jordanian corporate governance code for public shareholding companies in 2009, which has vested the audit committee a significant role in facilitating the work of the external auditors and organized the mechanism of the communication between auditors and the company. Another possible explanation is that time several Arabic translation for the term corporate governance were emerged in Jordan which might distracted their understanding of the term corporate governance (Shbeilat, 2013). The results also consistent with Beattie et al. (2013) who investigated factors affecting audit quality in the

UK, and found the factor "Auditor required to communicate with the audit committee on all key issues associated with the audit, and with ethical standards" (p. 67) the most factor enhancing audit quality. A possible explanation, based on the interviewees' comments, is the recent enhancements of the new instructions of the Jordanian corporate governance (version 2017) which mandated listed companies to appoint 'governance liaison officer' who supervise and document audit committee meetings with the auditor. Alqatamin (2018a) found that audit committee independence has positive relation with company performance in Jordan while number of audit committee meetings has no association, this, however, this could be attributed to the panel regression method of Alqatamin's study which links the number of audit committee meetings with the (ROA) regardless of the efficiency of the meetings which has been heavily criticized by the interviewees of this study.

The main quantitative finding of this study suggests that audit committees do not support external auditor when disagreements arise between auditors and their client management on accounting policies, estimates and the appropriate application of accounting standards. The qualitative interviews have strongly affirmed this suggestion and attributed that to the dominance of family members and friends over the board and the upper management regardless of their qualifications and technical experience in accounting and the IFRS. The results also consistent with Abdullatif et al, (2015) and Abdullatif (2006) who found that audit committees in Jordan perform their duties and responsibilities to a moderate level. Abdullatif et al, (2015) attributed their findings to the existence of a large portion family controlled businesses in Jordan, which, accordingly reduces the need for effective audit committees. This, however, consistent with the viewpoints of the interviewees who pointed out that in many family companies the executives override the roles of audit committee's decisions regarding auditor's work. Interestingly, the interviews revealed a positive impact of management's control over audit committee decisions, that is audit procedures are conducted smoothly especially when the company has a qualified financial manager and a team of competent accountants, and vice versa. This also appears to be a strong affirmation to the argument that family business model tends to have low agency conflicts due to the overlap between the company directors, managers and the owners (Songini & Gnan, 2015).

6. Research Implications

The results of this study are of relevance to regulators and the Jordanian associations of certified public accountants in evaluating the effectiveness of the two-way communication between external auditors and those charged with governance. The interviews also revealed several factors that have negatively affected the effectiveness of the communication between auditors and those charged with governance such as: appointing public figures and relatives regardless of their eligibility, insufficient oversight by the securities commission, and the routine meetings of audit committee members without properly prepared agenda.

On the other hand, the interviews showed two potential factors have been viewed to improve the effectiveness of the communication process and thus, improve audit quality, that are the appointment of a 'governance liaison officer' and the new method of selecting the board members which is the cumulative voting. These factors are also of relevance to the Jordanian securities commission and the company control department which are in charge of overseeing entity's compliance with the instructions of corporate governance. Regulators must ensure the best implementation of cumulative voting during the general assembly meetings. It is hoped that cumulative voting will positively increase the representation of qualified, non-executive and independent members so that the communication process will be greatly enhanced. Further, the findings should be of interest to academicians to explore the impact of the enhancements added to the recent version of corporate governance in Jordan. Since the current year (2019) is the first year of the mandatory application of cumulative voting. Future researches are encouraged to investigate its effects on (1) producing strong and diversified board and audit committee members and (2) the extent of the representation of the minority shareholders in improving the performance of those charged with entity governance and the communication process with external auditors. Finally, cautions must be considered for the purpose generalizing the findings of this study because it reflects Jordanian's unique culture in an emerging capital market such as the appointment of public figures who were previously worked in the public sectors as prime ministers, ministers which is totally differ from running the private sector.

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Competency Management in the Context of Omani Civil Service Reform & Development

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Abstract

This paper aims to discuss the extent of the application-based management efficiency in the Sultanate of Oman Civil Service, by comparison with the practices and experiences of five systems of the civil service or the public in each of the (United States of America, Canada, South Korea, Saudi Arabia, United Arab Emirates). Several variables and address are necessary to achieve reform and development in the civil service such as the situation organizational and strategic system competencies, selection and appointment and based on efficiency, performance evaluation based on efficiency as one of the main functions of human resources management in the public sector, and the framework or efficiency model. In order to become a civil service in Amman of the best practices in the efficient management system at the regional and international level, providing more than ten developmental proposals paper to raise the level of the civil service, because the competency's management of important topics in the development of civil service performance, seen as a tool to shift from the traditional bureaucracy to modern organizations.

Keywords: competency management, competencies, civil service, development in public sector

1. Introduction

Introduce the Problem

A recent study by the (Korn Ferry, 2018) Entitled: Global Talent Crisis The Global Talent crunch By studying the financial implications resulting from the lack of qualified owners at three different time levels 2020.2025, 2030 (20) of the economies of developed and developing countries where the study results that there is a major crisis looming enormous shock will affect the institutions all over the world, it is expected a shortage of skilled labor by the year 2030, it has a talent crisis lead to a change in the global balance of economic power by 2030 and must governments take different methods and approaches to meet the expected shortfall in talent. The translation of those directives of the Sultan of Oman came to be prepared for future vision" Oman 2040" So as to be assimilated to all sectors and forward-looking and focus of the vision: develop competencies and improve the effectiveness of governance and institutional performance (Oman 2040, nd).

He stressed (Gangani, et al, 2006) That the use of the efficient method as the basis for the management and development of human resources has become widespread and is gaining more international practices, therefore it must be more research on the applicability of competencies in various HR functions. This is what makes public administration systems around the world have Undergone major reforms over the past twenty years and is likely to continue to change in the future and assumes that the management competencies are supporting this process of change, as seen as a pressure tool to shift from the traditional bureaucracy to the flexible and modern organizations De Beeck and Hondeghem, 2010).

In line with future developments and changes rapidly, the article will focus on the study of human resources in the Sultanate of Oman Civil Service system, compared with some government practices in some of the world applied to those systems. Because talent management has become one of the most important practices in government and private institutions, they help those organizations identify the right person to work, and other basic functions of human resources (Draganidis & Mentzas, 2006). Confirms (SO De Beeck & Hondeghem, 2010) that is expected when the civil servants apply competencies in their work, the result is to be the effective performance, which in turn leads to the achievement of the objectives of the government. And thus, the positive impact on the economic growth of the countries when adhering to the principles of merit in the civil service (Cortázar, JC, 2016).

for the management of competencies is important to move to a talent The construction of an integrated system management system steps, and if implemented properly it will achieve the best results of government ment services, and to performance, and promotes the competitiveness of the public sector, and improves govern achieve justice among employees. We hope to take the proposals contained in this article effectively, and that efforts are harnessed to do more research and studies in talent management and talent in the public sector.

2. Method

Because of the overlap of public administration (government) in many areas, and connections to many fields of knowledge, it has numerous studied ways, there became different approaches to study, including comparative entrance, and by comparing systems and processes of public administration in two or more countries (Ali, et al., 2013). Where the focus of public administration comparison Comparative Public Administration (CAP) Governments on how to manage resources from a comparative perspective, so increased recently the emergence of a group of international reports issued by the Organization for Economic Cooperation and Development (OECD) Or from the World Bank (The World Bank) And other organizations that focus their reports on international comparisons, where it turned out that 13.6% of the articles dealing with the public administration are from a comparative perspective (Walle & Brans, 2018). Points (Okoth & Ph, 2015) that there is a dearth of literature on public administration in general in the Arab Gulf states, as most of these countries tend to borrow best practices.

Given the importance of comparative studies in the field of public administration, this article will discuss some of the practices related to talent management system in six different countries around the world, (the United States of America, Canada, South Korea, Saudi Arabia, Oman, in addition to the Sultanate of Oman) through access to the literature, international and published reports, laws and regulations governing the system of competencies in those countries and policies, in order to stand closely to develop talent management practices in the civil service sector in Oman, and compared with selected countries, out the results and recommendations contribute to raising the efficiency of the Wireless Performance Government and achieve the future vision of Oman 2040.

The reason for the identification of Arab States for the rest of the region, the great similarity in the civil service system in terms of legislation and the stages of establishment and development, and adopting efficiency mainly in the selection and recruitment in government jobs, and because human development in the GCC levels converged as in the human development of the United Nations Report (United Nations, 2013). And practices of foreign countries have been selected based on a recent study conducted by the Organization for Economic Cooperation and Development (OECD) In 2009 where it was found that these mature experiences with efficient management system states (SO De Beeck & Hondeghem, 2010). In addition to being one of the most effective in government effectiveness indicator governments Government Effectiveness Index Issued by world Resource Institute Which measures the quality of public services provided, and the level of qualification of civil servants, and the independence of the civil service (World Resource Institute, 2008).

3. Scientific Theory & Study Variables

In 1982 the scene came in administrative and organizational studies (Richard Boyatzis)So he studied the relationship between efficiency and job performance through " Model of Effective Job Performance" Which was based on the effective impact and get the performance will happen when the three critical components are compatible or suitable with each other, namely: (individual competencies, organizational environment, and requirements functional), and if not be compatible with each other will then happen behavior is ineffective or inaction about job(Boyatzis, 1982). And subsequently published McClelland (1973)Famous essay related to acceptance tests to fill jobs in the US State Department, which aimed to identify the common characteristics enjoyed by not Elite enjoyed by others and devised a list of characteristics (competencies) that called (efficiency model). Studies and applications based on efficiency since that time and then gained to the present acceptance among the academic work and the business community have gone through three stages of development (Kupczyk, 2014) :

1- The first stage: Competencies Individuals Both researchers(White 1959; McClelland 1973; Boyatzis 1982; Woodruffe 1992; Spencer, Spencer 1993; McCracking 1998)

2- The second phase: Competencies Models For each of the (Mansfield 1996; McLagan 1997; Lucia, Lepsinger 1999; Rothwell, Lindholm 1999).

3- third level: Core Competency Identifying, For each of the (Prahalad, Hamel 1990; Ulrich, Lake 1991;

Gallon, Stillman, Coates 1995; Coyne, Hall, Clifford 1997; Rothwell, Lindholm 1999; Delamare, Winterton 2005

According to the theoretical assumptions, the efficiency-based management is a new trend in human resources management and is one of the advantages of building competency's management systems in the possibility of integrating all areas of human resources management because of a methodology based on efficiency(Sienkiewicz, 2014). Confirms(S. Beeck & Hondeghem, 2010) That talent management is more than just identifying competencies and using them in different processes of human resources, as they need to be dynamic on the organization as a whole and should be talent management becomes a way of thinking for their integration into human resources activities and systematically, and in line with the organization, vision and strategic message and implemented throughout the organization.

And we will adopt in this paper on the study of three variables, namely, (organizational and strategic position of the system of competencies, and functions of human resources management based on efficiency and focus only on those two practices, namely selection, recruitment and performance evaluation, the last variable is the frame or efficiency model) and compared between the civil service systems or the public in six different countries. And Figure 1 shows an integrated system for the management of competencies in the organization, where vertical integration refers to human competency's coherence with the vision and strategy of the organization, as well as human resources policies, therefore should be selected competencies, organize, develop and evaluate even contribute to the achievement of the organization's goals.(S. Beeck & Hondeghem, 2010).

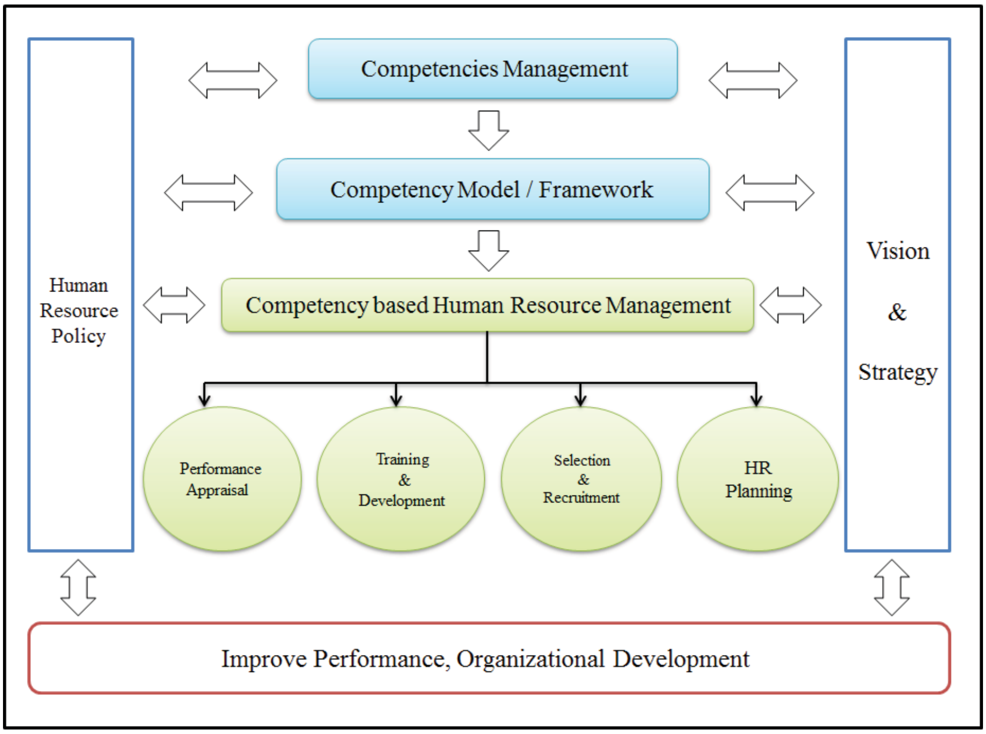

Figure 1. Competencies Management System (L. Spencer, &S. Spencer, 1993), (Laakso-Manninen & iitala, 2007), (S. Beeck & Hondeghem, 2010), (Campion & Odman, 2011)

4. Background

One of the most major challenges for the management of human resources based on efficiency is that the concept of efficiency is precisely defined and can be understood in different ways (Sienkiewicz, 2014). The term efficiency is scientifically and practically both for its association with a wide range and variety of meanings and terms ability, aptitude, capability, competence, effectiveness, and skill This can be a term attributed to individuals, or groups, or institutions, and because of the Tapping in scientific definitions of efficiency, it is impossible to determine a specific definition agreed upon, however, it can be explained through scientific or process that followed the researcher to build the scientific theory of efficiency goals (Weinert, 1999) (Delamare, Deist, and Winterton, 2007). Where it can be returned term efficiency the term competency in the literature to the seventies, there are many different definitions of efficiency (Benayoune, 2017).

McClelland (1973)”Competency is defined as a personal trait or set of habits that lead to more effective or superior job performance”. L. Spencer, & S. Spencer (1993)“ Competencies are skills & abilities-things you can do—- acquired through work experience, life experience, study or training ”.Draganidis, F., & Mentzas, G. (2006” Competency is a combination of tacit and explicit knowledge ,behavior and skills that gives someone the potential for effectiveness in task performance”.

The definition of the latter confines us to a comprehensive definition that has been reached after the study and analysis of twelve definitions of efficiency.

Reached L. Spencer, & S. Spencer (1993) To five properties for efficiency named “The Iceberg Model “ Where many institutions to choose on the basis of competencies phenomenon Visible part (Knowledge, Skills) If, for example, said: We postgraduates of the best colleges and then assume that they have the competencies Batinah Hidden part (Self-concept, Trait, Motive) Or it can install these features through good management, but it is likely to be the opposite is economically feasible, for institutions to choose to accord to the competencies of internal medicine and the training competencies phenomenon. Concluded Timothy, Athey.M, Orth (1999) Through his study of the concept of efficiency that there is a set of similar characteristics which distinguish it from other concepts, including: knowledge or skills associated with current job performance; emerging knowledge or skills required for future success; intellectual or behavioral best practices of high performing people or teams; process capabilities that enhance organizational or business performance; new ways of thinking or behaving that provide the distinctive competitive advantage. The talent management sometimes called-based management efficiency competency-based management Includes identifying competencies that distinguish high performers from the average performance in all organizational areas and build a framework of competencies and use it as a basis for selection and recruitment, training and development, rewards, and various other aspects related to personnel of the Organization(De Beeck & Hondeghem 2010). Conducted Aberdeen, Group (2007) A leading international institution in the field-based research on the labor market, a study in (370) Organization of the world about the extent of use and application management competencies and benefits from the application of management initiatives based on efficiency, and highlighted the findings of the study: that 66% Organizations use seminars and training sessions method as part of their efforts and initiatives in talent management, and 41% of organizations have models of efficiency, and that 57% of those organizations reported that the harmonization between the workforce and the goals of the organization, is the main factor that drives to focus on the adoption of talent management and that there is a strong correlation between the management of competencies and the ability of the organization to improve workforce productivity.

5. Organizational and Strategic Competency's System Status

Research suggests that States that are managed by skilled enjoying high economic growth rates, and this confirmed it as well World Development Report 1997 That the application of merit Merit In the civil service helps to bring staff with high quality. (UNDP, 2015).

Civil service systems or public around the world seek to apply the principles and systems of effective management in all public functions, which result in the presence of government agencies responsible supervision and regulation and the development of policies and systems that achieve the goals of public administration seeks to achieve efficiently and effectively.

These devices differ in terms of the nature of the supervision and terms of reference and titles, but they are divided into two main, namely: 1. The first type: central single device, and entrusted to him all the terms of reference for the management of public office, whether legislative or executive and be their subordination in the habit of the highest authority in the country such as the Council of Ministers, such as

Federal Authority for Government Human Resources (FAHR) in Emirates, & Public Service Commission (PSC) in Canada, & Ministry of Personnel Management (MPM) in South Korea.

2- The second type is central, there is more than one distributed among them terms of reference, so the two sides, as is the case in Oman Saudi Arabia (Civil Service Council As a legislative and Ministry of Civil Service As an executive) or may consist of three sides, as in United States Which Office of Personnel Management (OPM) And specializes issuing legislation and to provide guidance and counselling, and Merit Systems Protection Board (MSPB) As a quasi-independent judiciary to protect the federal merit of banned practices and protect government employees from management systems violations, and Federal Labor Relations Authority (FLRA) Which seeks to bring stability and closer working relationships thereby contributing to achieving the highest levels of government performance.

a special committee is known as the Commission Northcote Trevelyan 1854 to study personnel. The United States did not lose sight of that, we're not only Msalhawwa the US government in the late nineteenth century, the use of only European experience, but they were also fond of saying: The acquisition of those systems is a necessary step in the direction of enlightenment if they wish to develop and become a civilized nation , and the first steps have been taken to find a modern management is to establish a civil service system is the appointment and take positions based on merit (Shafritz, & Hyde, 2012). In Canada, in 1962 report recommended Royal Commission on Government Organization The need to provide public services in government in both English and French and to rename the Civil Service Commission for the name of the Public Service Commission shall be responsible for the recruitment and training and development programs. The big shift in the Canadian government in the civil service system was in 2003, where it was issued and amending several laws, legislation and policies into law the Public Service Act and the values and ethics of public servants, and the granting of powers to Public Service Commission. In 2009, he announced the Canadian Prime Minister made significant structural in human resources management in the public service changes more coherent, streamlined and effective way to make it, and by enabling deputy ministers to assume responsibility for human resources in their departments, and streamlining the roles of the central agencies of human resources, and make adjustments to the policy General, and to clarify responsibilities and eliminate duplication. (Hurley, J, 2017, Lynch, KG, 2009).

England was the world leader in the introduction of a system of merit as it formed an

As South Korea has faced in 1997 economic crises, including the inadequacy of the competitiveness of the government compared to the private sector because of the low civil service performance level, so the government began to enter many of the reforms has shown the presidency Kim Dae Jung(1998-2002), which called for which to create a small and effective government, but they offer the best service and part of the reforms undertaken by the Government to strengthen the role of human resources and the creation of a workforce's ability to be more competitive. In 2001, the application of talent management in the system of government which has been designed to support human resources planning, including operations began the selection, promotion, training and career advancement, as part of the reform strategies and improve government performance, which aims to improve and raise the civil service efficiency and thus enhance the competitiveness of South Korea. (De Beeck & Hondeghem, 2010, Namkoong, K, 2007).

The first effort to reform the administrative system in Saudi Arabia was in 1927 under the name of “inspection committee and reform”, and in 1931 issued the first civil service system, and with the expansion of the government apparatus and the diversity of fields used the government in 1960, a group of World Bank experts and the Ford Foundation of America to conduct a study on Situation of public administration, as a result of economic growth witnessed in the Kingdom in the seventies of the last century, passed the current civil service system, and the system of the Civil Service Council, and the establishment of the General Personnel Council, which later turned to the Ministry of Civil Service in 1999. (Rashid, 2004).

In the Sultanate of Oman have been assigned Civil Service Affairs in 1970, the Ministry of Royal Court Affairs, and in 1975 issued the first law to regulate the administrative apparatus and the first civil service law, and in 1988 was the establishment of the Ministry of Civil Service and the formation of the civil service means the development of public policies on matters of public office, in 2004 the Civil Service Law and the applicable issued so far.

In the UAE, the Civil Service Law was promulgated in the Federal Government in 1973 and the formation of the Civil Service Council, and in 2001 was the establishment of the Civil Service Bureau follows the Civil Service Council, and in 2008 was the establishment of the Federal Authority for Government Human Resources and the issuance of the Human Resources Act.

After studying the organizational status of the system of qualified human resources in the Arab and foreign countries, comparison shop, and the reforms and the changes made by these countries in order to consolidate the principles of efficiency in the public service, we conclude that there are some foundations and principles that must be based on talent management in the public sector system, As follows :

1- That efficiency has become linked to the public service, and must be linked as well as policies, laws and regulations and procedures for recruitment, training, performance evaluation and other key functions related to human resource's management. Thus, became the logical model work efficiency prominent and important for the diagnosis and supervision and improve leadership in general, and the management of human resources (Prasanthi, S, 20015).

2- All states have varying practices in the civil service systems, it must be the pursuit of continuous updating of these systems in order to cope with the requirements of each stage. Where is the reform of the civil service of the most difficult development reforms, but it is now essential for the sustainability of the public sector because the application of the principles of merit in the civil service gives the individual the ability to achieve the best results, which reflected positively on the well-being of society(UNDP, 2015, 2010).

3- The shift from the traditional role to a strategic role in the civil service. The International Public Management Association for Human Resources (IPMA-HR) Establish a working group of experts to discuss the challenges and opportunities facing human resources in the public sector for the year 2020, and the findings of the Panel that the majority of human resources departments in the public sector suffers from a lack of support, expertise and resources needed to achieve the transition from the role of actions to the strategic role and innovation and strategic direction contribute to the success of human resources and turn them into an effective strategic partner rather than as a tool for action and to provide assistance. (IPMA-HR, 2016). For example, putOPM A strategic plan until the year 2022 (OPM, 2018) As well as FAHR Developed a strategic plan until the year 2021 FAHR, 2017).

4- Broad participation and benefit from applied research and best practices while doing the preparation and development of competencies system in the civil service. For example, the Canadian government has adopted a management framework based on efficiency Competency-based Management for a year 1999Through the allocation of a specialized committee which is the Steering Committee on Management based on the efficiency, where the Commission in consultation with officials of the Treasury Board and the Public Service Commission, the Joint Committee between the concerned departments administering the efficiency, the Council of Human Resources, and representatives of the staff, the Committee also adopted on practical experience, and management practices that have been applied over the past few years, and the results of research conducted in the public and private sector institutions that have implemented human resources management system based on efficiency, and conduct a field study on 57 government institution Federal Of Canadian. As well as is the case for South Korea, where the participants in the preparation and implementation of the competency model of senior civil service officials, experts from the Korean Society for Organizational and Industrial Psychology, Society for Korean personnel management, and a group of consultants, and officials from the Civil Service Commission, and the staff of human resources departments in government ministries and agencies, and the completion of the work has been used several methodologies, such as the analysis of jobs, and in-depth interviews and questionnaires, as well as in-depth review of the literature of talent management in general and in particular models of efficiency(De Beeck & Hondeghem 2010).

To activate the organizational and strategic competencies system in the civil service situation in Amman in the light of previous comparisons, they need attention and make a study of the proposed reforms referred to in Table (1).

Table 1. the proposed civil service reforms in Amman to activate the organizational and strategic position of the system of competencies

M	sThe proposed reform	Implementation	up-Follow	Take advantage of the practices and methodologies
.1	Develop a strategic plan for the civil service competencies in line with the vision of Oman 2040	Ministry of Civil Service	Civil Service Council	(OPM, 2018), (FAHR, 2017)
.2	The development of strategic objectives of competencies in all of the civil service authorities	All sides	Ministry of Civil Service	Center for Innovation in Public Service (HCM Framework), Competency based Management (PSC)
.3	aration of General policies of the prep competencies	Ministry of Civil Service	Civil Service Council	Policy (MPM), Public policy & HRD (United Nations, 2005).
.4	The development of training plans and conduct applied research and management consulting competencies in the management system	Institute of Public Administration	Ministry of Civil Service	HR University (OPM), Canada School of Public Service.

6. Recruitment & Selection System - Based Competency

The selection and appointment process Recruitment & Selection Of the most important departments of personnel management functions and the most serious and sensitive, being a task that is determined through which to exclude individuals who are less efficient, Through this process, determined the future of the civil service and the level of efficiency and effectiveness of staff (Alkubaisi, Amer, 2005) .According to the results published by the The National Business Research Institute For the year 2014 That employment is not effective can cost the institution 25 one thousand dollars, And sometimes lead to leave their jobs for new employees during the first six months due to the ineffectiveness of the selection and recruitment procedures (Peregrin, 2014)(Rosenberg, 2000). Confirms. Spencer, & S. Spencer (1993) That the selection methods of appointment based on efficiency based on the following hypothesis: "The greater the compatibility between the job needs and competencies of the holder, increased work performance and job satisfaction."

We would like to mention that the civil service systems in the countries comparison shop has taken the methodology of efficiency as a basis for the selection and access to public office, but there is a difference in how to apply the methodology through the use of tools or means of employment, organizational levels that are subject to the procedures, and the required number of stages for the selection of individuals with efficiency. And Table 2 shows some of the selection practices based on efficiency in countries comparison shop appointment.

Table 2. based on the comparison between the selection and recruitment practices on efficiency

Comparison	(OPM) USA	(PSC) Canada	(MPM) S. Korea	(MCS) KSA	(FAHR) UAE	(MCS) Oman
Functional grades are subject to a system of open competition	grades All	All grades	and 9 7 ,3	and 7 ,8 6	specific-Non	Typical functions and support services
Is the leadership of the system are subject to open competition levels	Yes	Yes	Yes	No	No	No
Methods and tools for selection and appointment	Exam & Interview	Exam & Interview	Exam & Interview	Exam	Exam & Interview	Exam
Does the selection system is linked to a frame or appointment and competencies model	Yes	Yes	Yes	No	Yes	No
Otmmh system electronically	At all stages	At all stages	-	At all stages	Electronic submission and in the screening stage	At all stages
Is there evidence of the system are indicative of selection and appointment	Yes	Yes	Yes	No	Yes	No
Is there a mechanism for grievance procedures of selection and appointment	Yes	-	-	No	No	No

Source: (Cho, 2010), (Kim, S, 2010), (PSC, 2017), (Sabbarah, 2013), (MPM, 2018), (MSPB, 2004, 2017), (OPM, nd), (OCHRO 2015).

The previous table (2) note that:

1- Oman, Saudi Arabia and the UAE agree to exclude senior leadership positions from the civil service open competition and applied to the rest of the jobs. : A study of the World Bank and experts involved in the performance of the public sector that senior government positions require skills and competencies, and therefore requires efforts in the polarization and keep them in accordance with the competency management system, has allocated some countries and the independence of that category under the name Senior Executive Civil Service As in America, Canada, Britain, South Korea, Australia, and the choice of appointment system and a competitive open document on merit (Lafuente, M. et al, 2012). A study OECD (2015): That half of the EU member states have a competency framework for senior civil servants is used in recruitment and training.

2- Selection and appointment system is linked to a framework or model competencies in both America and Canada, South Korea and the UAE. Confirms Sienkiewicz (2014) That the successful application of the concept of competencies in the organization conditional on providing practical in the field-based human resources management solutions on efficiency through efficiency models or frameworks.

3- Selection and appointment guide is one of the important tools that help managers and HR staff in understanding the processes and procedures related to employment, which is present in both America and Canada, South Korea and the UAE.

4- And procedures for selection and recruitment operations in Oman and Saudi Arabia is somewhat similar.

In light of the previous comparisons, we suggest some reforms for employment based on the activation of efficiency as in Table 3.

Table 3. the proposed civil service reforms in Amman to activate employment based on efficiency

Take advantage of the practices and methodologies	Implementation	preparation	The proposed reforms	M
(MSPB, 2004, 2017), (OPM, nd),	Civil Service Council with the Council of Oman	Joint work between the vice Ministry of Civil Ser and government agencies team	Modifying the texts of the special selection and appointment of legal materials in the Civil Service Act and its implementing regulations so based on .the principles of efficiency	.1
(MPM, 2018), (PSC, 2017)	Civil Service Council	Joint work between human resources experts and the Ministry of Civil Service Team	Public policy for employment in the civil service preparation	.2
Personnel Psychology Centre (PSC, Canada), (Sabbarah, 2013)	Council of Ministers	The Ministry of Civil Service and the Institute of Public Administration	The establishment of the National Center for competency assessment	.3
(MPM, 2018), (PSC, 2017), (OPM, nd),	Ministry of Civil Service	The Ministry of Civil Service in cooperation with the Institute of Public Administration	Preparation indicative evidence for the selection and appointment	.4

7. Performance Appraisal System - Based Competency

Used many organizations efficiency models as a basis for building performance management systems, and determine usually between five to ten core competencies be linked to the strategic objectives and factors of the success of the organization, it is advisable not to include a large number of competencies so as not to waste officials and management time in the procedures and evaluation stages, which Ansehm focus on the performance aspects of the employee (Pulakos, 2004). Where the report noted OECD (2017) That all OECD countries have assessments formal performance and mandatory for the staff of the central government, as agreed about 16 countries that staff performance management intervention in government areas of reform, where he was recently in Canada, the implementation of new systems in performance management and standardization of those systems for all federal public service employees, and occupied Korea South fourth place, the United States ranked fifth, Canada ranked 13th in the extent of the use of performance assessments in decisions related to human resources in the central government of the 37 countries of the OECD member countries index.

Since many different performance evaluation systems, but the recent trends of the system must be based on linking employee performance objectives and strategy of the organization, and to link the results of the evaluation and other functions for the management of human resources, as well as to enhance and develop the capabilities and competencies of staff. And Table 4 compares performance evaluation in countries comparison shop systems.

Table 4. Comparison of the procedures used in the performance appraisal system

(MCS) Oman	(FAHR) UAE	(MCS) KSA	(MPM) S. Korea	(PSC) Canada	(OPM) USA	Comparison
Performance Appraisal	Performance Management	Performance Management	Performance Management	Performance Management	Performance Management	Named System
All staff, except for the occupants the of special functions, experts and advisers class	All staff of the degree of Undersecretary of the Ministry ‹(to class (10 except for grades (11) to (14)	All staff of mattresses (13) and below, except for the favorites (15) (and (13	All staff, senior including civil service officials	All employees in the public service	All organizational levels	From subject to this ?system
3	4	2	2	2	2	Number of models used in the system
Specific elements with functional performance evaluation system	Objectives and a set of competencies	Objectives and a set of competencies	Objectives and a set of competencies and plan learning and development	Objectives and a set of competencies	Objectives and a set of competencies	The main elements of the system
1	3	3	3	3	5	Number of stages of the system
0	9	7	6	6	5	Number of existing competencies in the system
No	Yes	Yes	Yes	Yes	Yes	Employee sign the valuation model
Secrecy	confidenti-Non al	confidenti-Non al	confidenti-Non al	confidenti-Non al	confidenti-Non al	Evaluation results
1	6	3	Manual Performance Agreement and Policy Performance Management	A large number of pilot evidence	integrated An library of manuals, brochures, instructions and videos	The number of methodologies and manuals that came with the system

Source: (Kong, D. et al, 2013), (Kim, Pan, 2014), (OPM, 2017), (MPA, 2018), (TBCS, 2014).

Through previous comparison based on performance evaluation systems on efficiency, draw some of the general principles and orientations that must be based on the evaluation of any functional performance of the civil service system, as follows:

1- The application of modern systems of performance evaluation is the most important " System Performance Management. "Where most of the literature suggests that it has become the modern approaches that have sprung up recently. (L. Spencer, & S. Spencer, 1993), (Rashid, 2004), (Pulakos, 2004), (Aguinis, 2013), (Dorsy & Hason, 2017)

2- Transparency and justice through the involvement of the government agency staff and inform them of all phases of the evaluation system and its components and competencies related to various organizational levels is. Research has shown that it is important to recognize that staff performance management system that is fair and transparent (Aguinis, 2013)

3- The system is flexible and easy application and connect them electronically with human resources information systems. A poll conducted by the Foundation Watson Wyatt Three out of every ten employees agree that the performance management system helps the organization to improve its performance, and that less than 40% said that performance management systems have developed clear performance targets, and the results also indicate that there is a weakness in the design of modern systems of performance in many organizations and performance management systems have become cumbersome because of the bureaucratic and time-consuming without any added value from their application. (Pulakos, 2004).

4- Linking the results of performance evaluation of other functions for the management of human resources Kaltrkiet, training, bonuses and other system.

The reforms related to performance based on the efficiency of the civil service in Oman assessment, relating to the transition from the current traditional methodology in the evaluation to " System Performance Management "With the need to focus on the preparation of the pilot guides the system by the Ministry of Civil Service, and the training of managers and officials of human resources on the system by the Institute of Public Administration.

8. Competency Model / Framework

Uses competency model Synonym competency framework It is a descriptive tool that includes skills, knowledge, personality traits and abilities and behavior are clear and detailed staff in the organization, and is considered very necessary to achieve strategic objectives and business successfully, and the framework for assessing the quality of human capital from the perspective of the organization's needs, and therefore the successful application of the concept of competencies in the organization conditional on providing process solutions field-based human resources management efficiency through efficiency models or frameworks (Hamid, 2014), (Sienkiewicz, 2014) .

This requires undertaking various measures can be classified into four categories, namely, (determining efficiency, competency assessment, gain efficiency, the use of efficiency) Initially, the institution you need to discover the competencies possessed by either the individual or organizational level, because they serve as a basis for the development of future talent, and more importantly, what are the competencies they need to improve institutional performance. (Rousku, 2014) The Orbiter system of talent management finds that there are many models and tire-related competencies, whether those models to government institutions or private, or professional associations or institutes and institutions consulting, or specialists in the field for researchers, but the important question how you can prepare those models or frameworks?

Since all comparison countries had developed its own set of competencies within the framework of core competencies or leadership or specialist, except for the civil service in the Sultanate of Oman, we do not recommend the reproduction of a window or a particular model and its application in the civil service, and we recommend conducting an integrated study using methodologies and methods of preparation model or competency framework which Oferdtha literature. And Figure 2 illustrates the stages and steps of the preparation of a form or a competency framework, it has been prepared based on different methodologies and studies.

9. Conclusion

As indicated previously, that the civil service reform is one of the most difficult development reforms, but efforts by governments and international organizations, and researchers seeking to overcome these difficulties, bridging research gaps, and development solutions, various scientific methodologies, and still continuing. Valtteri towards reform in the civil service needs time, and to the vision and a clear strategy, and cooperation between the various government agencies, in addition to supporting the adoption and applied research projects.

The construction of an integrated system for the management of competencies is important to move to a talent management system steps, and if implemented properly it will achieve the best results of government performance, and promotes the competitiveness of the public sector, and improves government services, and to achieve justice among employees. We hope to take the proposals contained in this article effectively, and that efforts are harnessed to do more research and studies in talent management and talent in the public sector.

1 Purpose & Goal	• Identify Target and goal. • Target Functional Categories. • Alignment with vision and strategy.	Processing of necessary documents (Laws, regulations, human resources systems and policies, organizational structure, job descriptions).
2 Methodology & Analysis	• Traditional way. • professional Way. • The Integrated method. • Data collection and analysis.	Interviews, questionnaires, behavioral events, task analysis, direct observation, ready models.
3 Readiness & design	• Competency Verification • Form Design • Form Markup	Verified by (interviews, tests, evaluation centers). Using Performance indicators.
4 Sharing & implementation	• Staff and management problems. • Effective communication. • Dissemination of the model and provision of support.	Induction lecture, training programs and workshops Guidance Guides.
5 Continue & Evaluation	• Post-Implementation Feedback. • Changes that may occur in human resources systems.	Questionnaires, interviews, performance evaluation results, change decisions and documents.

Figure 2. Stages and steps of building a model or competency framework (L. Spencer, & S. Spencer, 1993), (Orr, E, 2010), (Rousku, 2014), (MCS, 2015)

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Contemporary Issues Surrounding an Impairment-Only Approach to Acquired Goodwill: A Selected Review

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Abstract

This paper presents a selected review of contemporary issues surrounding an impairment-only approach to accounting for acquired goodwill and addresses the question of whether an impairment-only approach has resulted in an improvement in an accounting for goodwill. The review is structured around three main themes: concerned raised by stakeholders regarding an impairment-only approach, causes of the debates on goodwill impairment, and proposed solutions offered by stakeholders. The contribution of this paper to the debate on an impairment-only approach to acquired goodwill is to demonstrate that even though an impairment-only approach has posed implementation, auditing and enforcement challenges, it has also encouraged standard-setters, regulators and firms worldwide to make concerted efforts in bringing in more clarity to the valuation of goodwill and its impairment test. The review ends by offering practical ways forward on an accounting for acquired goodwill.

Keywords: goodwill, goodwill impairment, delayed expected loss, impairment-only approach, IFRS 3, IAS 36

1. Introduction

In September 2008, Lehman Brothers Holding Inc., the fourth largest investment holding in the United States of America (US) collapsed, which pushed the then global financial crisis into a much deeper state (Glaum and Wyrwa, 2009; Jenkins, 2017). Many countries that were based on export-dependent economy were affected by the financial crisis. For example, Malaysia experienced the full impact of the financial crisis in the first quarter of 2009 (Central Bank of Malaysia, 2009). The collapsed of many large corporations during the global financial crisis triggered uncertainty about the value of assets available in the surviving firms (Gunn, 2017), especially when there are large differences between the book values and the market values of the assets. Consequently, a number of firms were questioned for not reducing the values of their assets, in particular, goodwill through its impairment losses (Laux and Leuz, 2010; Ramanna and Watts, 2012), or they were examined for taking excessive impairment losses of goodwill (Giner and Pardo, 2014). Hence, the global financial crisis has drawn renewal attention to the debate on goodwill and its impairment test (Glaum and Wyrwa, 2009; ESMA, 2013; ASBJ et al., 2014; Andre et al., 2016).

Regulatory bodies, such as the Securities and Exchange Commission in the US and the Financial Reporting Council in the United Kingdom (UK), increased their scrutinisation of firms' financial statements to see whether goodwill reported on the balance sheet is impaired (FRC, 2008; Sussholz, 2009). Likewise, the International Accounting Standards Board (IASB) conducted a Post-implementation Review of IFRS 3 *Business Combinations* in 2013 and added two projects concerning goodwill in their research agenda in 2015 (IASplus, Undated; IFRS Foundation, 2015; Johansson et al., 2016). Consequently, almost a decade after the global financial crisis, the debate and regulatory focus on goodwill and its impairment continue (Andre et al., 2016; Deller, 2017). In an effort to inform readers of the debate on goodwill and its impairment, this paper has two main objectives. First, the paper reviews contemporary issues surrounding an impairment-only approach to accounting for acquired goodwill. These issues cover the late recognition of an impairment loss of goodwill, which then cause goodwill to be overstated on the financial statements. Second, the paper addresses the question of whether an impairment-only approach has resulted in an improvement in an accounting for acquired goodwill.

2. Research Method

This paper reviewed studies on an impairment-only approach to accounting for acquired goodwill published in the 2004-2018 period. 2004 represents the year when an impairment-only approach was first issued by the IASB under the new International Financial Reporting Standard (IFRS) 3 *Business Combinations* and the revised International Accounting Standard (IAS) 36 *Impairment of Assets*. These studies were identified through Google Scholar and selected journals using the following keywords: goodwill, impairment, IFRS 3, IAS 36, and amortization/amortisation. To ensure that the review presents an unbiased picture of the topic, this paper focuses on both the academic and practitioner journals. For the practitioner journals, there were 11 studies reviewed, mainly from audit firms and standard-setters.

For the academic journals, to select the highly relevant studies, following d'Arcy and Tarca (2018), the present study focuses on three journal rankings that are recognised at international levels, specifically, the United Kingdom (UK) Association of Business School Academic Journal Guide, the Australian Business Dean Council (ABDC) ranking and the German VHB-JOURQUAL 3 ranking by the German Academic Association for Business School. For the last two ranking, this paper selected journals that are ranked at least C. From these selection procedures, 20 empirical studies were selected of which 19 studies were published in accounting journals while one study was published in a business journal. The majority of the accounting journals were from journals that are ranked A* (3 studies), A (6 studies) and B (6 studies) by the ABDC ranking. This suggests that the contemporary issue of an impairment-only approach to acquired goodwill is an important topic that motivates high-quality academic research.

Overall, this paper reviewed 31 studies of which 20 were from academic journals and eleven were from practitioner journals. The review of an impairment-only approach to accounting for acquired goodwill is structured around three main themes. These are: concerned raised by stakeholders regarding an impairment-only approach, causes of the debates, and proposed solutions offered by stakeholders. The review also offers practical ways forward on an accounting for acquired goodwill.

3. Findings and Discussion

3.1 Concerns Raised by Stakeholders Regarding an Impairment-Only Approach

From the review of literature, two interrelated issues seem to dominate the discussion on an impairment-only approach to acquired goodwill. First, the impairment losses of goodwill have not been recognised in a timely manner (Hoogervorst, 2012, Ramanna and Watts, 2012; Ji, 2013; ASBJ et al., 2014; IFRS Foundation, 2014; KPMG, 2014; Filip et al., 2015). Second, absence the amortisation of goodwill, the late recognition of the impairment losses temporarily overstates goodwill presented on the financial statements (EFRAG, 2016; Li and Sloan, 2017). From the standard-setter point of views, concerns on the late recognition of goodwill impairment losses were highlighted by the Chairman of the IASB, Mr. Hans Hoogervorst who commented that the recognition of goodwill impairment losses often lagged behind share performance (Hoogervorst, 2012). Consequently, decisions made by the IASB in conducting a Post-implementation Review of IFRS 3 in 2013 and in adding two issues on goodwill (i.e., effectiveness and complexity of testing goodwill for impairment, and subsequent accounting for goodwill) as their higher-priority research project in February 2015 (IFRS Foundation, 2015; Schatt, 2016: 2) represent initiatives to address the issue.

Regulatory bodies, audit firms and reporting advisory groups in various countries also seem to echo similar concerns on goodwill impairment losses that were recognised quite late (ESMA, 2013; ASBJ et al., 2014; FRC, 2014; KPMG, 2014; EFRAG, 2016). For example, the European Securities and Markets Authority (ESMA) examined accounting and disclosures practices related to impairment tests of goodwill among 235 largest European listed firms that have significant goodwill in their financial statements for 2011 (ESMA, 2013). Their findings showed a relatively limited amount of goodwill impairment losses reported by these firms despite the financial crisis that occurred in 2008/2009. These findings led ESMA (2013) to question whether firms' recognition of goodwill impairment losses reflect the significant declined in their market capitalisation and the worsened economic conditions faced by these firms. Similarly, in 2012 members of the Accounting Standards Board of Japan (ASBJ), the European Financial Reporting Advisory Group (EFRAG) and the Italian standard-setter (the Organismo Italiano di Contabilita - OIC) set up a research group to undertake a survey on an impairment-only approach (ASBJ et al., 2014). They reported that many respondents questioned whether impairment losses of goodwill were recognised on a timely basis (ASBJ et al., 2014).

Prompted by the Post-implementation Review of IFRS 3, KPMG International Standards Group undertook interviews with stakeholders in various regions worldwide (KPMG, 2014). Their findings showed that most respondents agreed that goodwill impairment charges lagged behind actual impairment losses (KPMG, 2014).

In addition, EFRAG (2016) examined accounting practices related to goodwill among 328 European listed firms from 2005-2014. They found inconclusive evidence to support the effectiveness of an impairment model in generating reliable outcomes (EFRAG, 2016).

From an academic perspective, a number of studies have been carried out to identify the likelihood that firms delayed recognising goodwill impairment losses (e.g., Ramanna and Watts, 2012; Filip et al., 2015; Andre et al., 2016; Li and Sloan, 2017). For example, Ramanna and Watts (2012) examined non-impairment of goodwill among 124 US listed firms from 2003-2006 that have market indications that their goodwill may be impaired. Their investigation revealed that 69% of the US listed firms they examined do not report goodwill impairment losses. Instead of focusing on a specific country, Andre et al. (2016) compared the frequency and magnitude of goodwill impairment losses reported by European listed firms with that of the US listed firms. Using 35,063 observations, their findings revealed that during the financial crisis, the European listed firms reported significantly smaller proportion of goodwill impairment losses relative to goodwill balance (6% in 2008 and 7% in 2009) than those of the US listed firms (63% in 2008 and 40% in 2009). Incidences of firms not taking goodwill write-offs are also found in South East Asian countries, such as Malaysia and Singapore (e.g., Abdul Majid, 2015 and 2017). For example, Abdul Majid (2015) documented a large frequency of listed firms in Malaysia reported zero goodwill impairment in 2008 to 2010 (76% in 2008, 81% in 2009 and 77% in 2010) despite the country experiencing the full impact of the financial crisis in the first quarter of 2009.

3.2 Causes of the Debates

Shortcomings in the application of an impairment model often are identified as a primary cause for the late recognition of goodwill impairment losses (Cairns, 2015; Johansson et al., 2016). Many argued that an impairment model fails to separate out the subsequent internally generated goodwill, which may cause firms not to recognise their goodwill impairment losses on a timely basis (IASB, 2006; KPMG, 2014; Cairns, 2015; Johansson et al., 2016; IFRS Foundation, 2017a). Moreover, with an abolition of an amortisation of goodwill, an impairment model lacks rigorousness (IASB, 2006a; IASB, 2006b). As a result, an impairment model has been criticised for failing to effectively capture goodwill impairment losses in an appropriate amount or at an appropriate time, also known as “too little, too late” issue (ASBJ et al., 2014; ASBJ, 2017; EFRAG, 2017; IFRS Foundation 2017b).

Another shortcoming in the application of an impairment model, as argued by prior studies, is managerial discretions associated with the impairment testing of goodwill (Ramanna, 2008; Chambers and Finger, 2011; Ramanna and Watts, 2012; Hartwig, 2015). Managerial discretions that are frequently discussed in the literature include identification of cash-generating units to which goodwill is allocated (Ernst and Young, 2007; AbuGhazaleh et al. , 2011; Abdul Majid, 2013), estimations of fair value of the reporting units containing goodwill (Ramanna, 2008; Chambers and Finger, 2011; Ramanna and Watts, 2012; Li and Sloan, 2017) and determination of discount rates in the estimation of value in use (AbuGhazaleh et al., 2011; ASBJ et al. 2014; IFRS Foundation, 2015). ASBJ et al. (2014) explain that even though auditors may challenge the estimations and judgements made by management, they find it hard to refute these discretions decisively. Li and Sloan (2017) illustrate that challenges in verifying fair value estimates contribute to the relatively more inflated goodwill balances and less timely recognition of goodwill impairment losses of the 19,290 observations of US listed firms they examined during the impairment-only regime.

3.3 Proposed Solutions Offered by Stakeholders

Various solutions have been proposed to address the shortcomings in the application of an impairment model. Two main models that are commonly discussed are the amortisation of goodwill that had been abolished by the IASB, and the existing impairment-only approach. The amortisation of goodwill model required firms to reduce the amount of goodwill systematically on an annual basis over the useful life of the goodwill. Hence, management has to estimate the useful life of the goodwill. On the other hand, the existing impairment model requires firms to perform an annual impairment review of goodwill by comparing the recoverable amount of cash-generating unit(s) (CGU) containing goodwill with the carrying amount of the unit. If the recoverable amount is lower than the carrying amount, firms are required to reduce the amount of goodwill through an impairment loss. Hence, under the impairment model, firms are not required to reduce their goodwill balance systematically on an annual basis. In addition, the impairment model necessitates management to exercise judgement in estimating the recoverable amount of the CGU(s).

Advocates of an amortisation-based model call for a reintroduction of an amortisation of goodwill, arguing that the periodic amortisation enables consumption of acquired goodwill to be recognised in profit or loss rather than being shielded by internally generated goodwill under the impairment model (ASBJ et al. 2014; KPMG, 2014).

Moreover, an amortisation-based model requires less judgements and estimations than an impairment model, which may enhance the level of reliability and verifiability in accounting treatments for goodwill (ASBJ et al. 2014; KPMG, 2014).

Proponents of an impairment-only approach maintain that although an impairment model has its limitations, in general, it generates more relevant information to the capital market than an amortisation-based model (KPMG, 2014). In addition, they emphasise that compared to an amortisation-based model, an impairment model provides information that is helpful to users in assessing management's stewardship of the firms' assets and the performance of an investment (FRC, 2014; KPMG, 2014). FRC (2014) conducted an outreach meeting of the Post-implementation Review of IFRS 3 that was attended by 40 respondents. They reported that although there were mixed views on the usefulness of information generated from an impairment-only model, the majority of the respondents regarded the impairment-only model to be an appropriate approach (FRC, 2014).

Apart from amortisation vs. impairment debates, there are also those who suggested for a hybrid model that includes periodic amortisation and an indicator-based impairment testing of goodwill, or those who argued that goodwill should be written off immediately (KPMG, 2014; Boyle et al., 2015). Looking back in history of an accounting for goodwill, one would realise that these proposed solutions are not novel as they had been stipulated by former accounting standards on goodwill and had been practiced by many firms prior to the implementation of IFRS 3 (Johansson et al., 2016).

Despite the shortcomings in the application of an impairment model, what is interesting from reviewing the empirical studies on an impairment-only approach is that with the implementation of an impairment-only approach, listed firms worldwide have improved their disclosure on goodwill and its impairment test over time. For example, in Malaysia, Carlin et al. (2009) reported a 56% compliance with the disclosure requirements related to an impairment test of goodwill in 2006, the initial year of the IFRS 3 implementation. Two years afterward, Abdullah et al. (2015) reported that the level of compliance with the disclosure requirements of MFRS 3 (IFRS 3) and MFRS 136 (IAS 36 *Impairment of Assets*) in Malaysia increased to more than 70% (mean 77% for MFRS 3 and mean 72% for MFRS 136) for 121 listed firms they examined for the financial year ended 31 December 2008.

The improvement in firms' disclosures of goodwill and its impairment test is also evidenced in other countries. For example, an investigation of goodwill disclosure practices among 287 Australian listed firms from 2005-2010 by Guthrie and Pang (2013) showed that the level of compliance with the disclosure requirements to allocate goodwill to cash-generating units increased from 61% in 2005 to 80% in 2010. Likewise, the examination of the disclosure requirements of paragraph 134 of IAS 36 among 472 Dutch and Swedish listed firms for 2005 and 2008 by Hartwig (2015) showed an improvement in the compliance levels over time from an average of 52.7% in 2005 to 61.9% in 2008.

Even though, prior studies reported that full compliance with the disclosure requirements of goodwill and its impairment test is not yet achievable (Glaum et al., 2013; Abdullah et al., 2015) and these disclosures lack entity-specific (FRC, 2008; ESMA, 2013; KPMG, 2014), users of annual reports and especially analysts and bank officers express high demand for the disclosure of critical accounting estimates and impairment tests of goodwill (Johansen and Plenaborg, 2013; KPMG, 2014). KPMG (2014) elaborated that some analysts seek disclosures of goodwill impairment test to aid them in their valuation model. In addition, Baboukardos and Rimmel (2014) analysis of 76 Greek listed firms found goodwill to be value relevant, especially for firms with high level of disclosure of IFRS 3 and IAS 36.

4. Conclusion and Suggestions for Future Research Opportunities

This paper presents a selected review of contemporary issues surrounding an impairment-only approach to accounting for acquired goodwill and addresses the question of whether an impairment-only approach has resulted in an improvement in an accounting for goodwill. The selected review demonstrates that even though an impairment-only approach has posed implementation, auditing and enforcement challenges, it has also encouraged standard-setters, regulators and firms worldwide to make concerted efforts in bringing in more clarity to the valuation of goodwill and its impairment test.

This paper has three specific recommendations for future research. First, research results have highlighted the shortcoming in the application of an impairment model. Few studies have attempted to address this shortcoming by seeking to understand how firms implement impairment test through survey questionnaires (e.g., Petersen and Plenborg, 2010; Mazzi et al., 2016). To provide greater insight into this shortcoming in order to offer relevant and practical solutions, it is recommended for future works to focus on conducting interviews with key personnel in-charged with the impairment test.

Second, the review of the empirical studies has demonstrated that improvements have been made in an accounting for goodwill and its impairment test through firms' disclosures (Guthrie and Pang, 2013; Hartwig, 2015) though these improvements, at present, are below our expectation. Thus, there is a need for more research on firms' disclosures focusing on how firms conduct their impairment review and how firms disclose the judgement involved in the impairment tests, so as to identify best practices, which then could be mimicked by other firms.

Third, d'Arcy and Tarca (2018), in their review of research on IFRS goodwill accounting, highlight the need for researchers to explore new data source. In this paper, it is suggested that one possible source that worth the investigation is the Key Audit Matters in the independent auditor's report. Analysing issues related to goodwill impairment highlighted by independent auditors in the Key Audit Matters help provide insight on how auditors addressed the issue, which could generate inputs to further improve the disclosure requirements on goodwill impairment.

In sum, this paper suggests that in the case of an impairment-only approach to accounting for acquired goodwill, the way forward is for standard-setters, regulators, researchers and various stakeholders to focus more on improving the impairment model and for firms to further enhance the quality of existing disclosure of goodwill impairment and its test.

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Governance and Auditing the Implementation of the Sustainable Development Goals (SDGs): Challenges of the Preparedness Phase

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Abstract

This paper aims to perform an in-depth analysis of the Sustainable Development Goals (SDGs) which have been implemented by the United Nations in the year 2015. The research is based on performing an audit of the design and structured framework in order to understand the level of its successful implementation along with highlighting the grey areas and potential threats which require a proactive and strategic move. All the presentations and discussions which happened in the 15th General Auditing Bureau (GAB) Annual Seminar, being held in Saudi Arabia in the year 2018, have been assessed and evaluated to draw a conclusion.

This study has adopted an exploratory paradigm which is termed as interpretivism followed by qualitative research and analysis approach where secondary data set has been used. The main sources of data were the deliberations and discussions of the GAB seminar along with relevant information sources concerning SDGs such as the UN reports and recommendations of other conferences coupled with symposia on the subject. There are certain limitations of the study which include limited availability of literature which weakens the theoretical foundation of the subject of the present research. The analysis of the data set has revealed the presence of institutional and professional preparedness intending the smooth implementation of SDGs. However, analysis of the discussion on the seminar has highlighted specific gaps which might challenge the efficacy of the program and hence requires a necessary action.

Keywords: sustainable development goals, governance, The 15TH GAB Seminar, The UN 2030 Agenda, auditing

Paper Type: Research Study

1. Introduction

In the last ten years, the domain of sustainability has been extensively researched (Laszlo & Zhexembayeva, 2017). The literary analysis has highlighted that sustainability affects all the aspects of human life and is much concerned with human activities (Clayton & Radcliffe, 2015). It spans from maintaining a change in the eco-system, through the exploitation of resources and evaluation and selection of alternative investment options to directing technological research and development and embrace the change in order to meet current and future needs and human preferences (Crane & Matten, 2016). In the past decade, lots of sustainability-related efforts have been made at both individual and institutional level. The formulation and structuring of Sustainable Development Goals (SDGs), also known as "the Global Goals" is one of the best and practical examples of such efforts accredited to the United Nations.

Based on the success of UN's Millennium Development Goals (MDGs), the core focus of SDGs has been directed towards the eradication of poverty, protection of planet and promotion of peace and prosperity among the people. These SDGs (17 in total) are interlinked; given that the achievement of one SDG fosters the increased chances of availing one or more SDGs. In its real sense, SDGs came into effect in January 2016 and now is a major influencer of United Nation's Development Program (UNDP) which encompasses a considerable growth and development potential (at least until 2030) in different areas. Achieving these SDGs requires real contributions from the stakeholders including Government, the private sector, civil society, and individuals. UNDP is working in around 170 countries and territories for the achievement of these SDGs.

Since the concept of sustainable development goals has been introduced around thirty-years ago (United Nations World Commission on Environment and Development, 1987), these goals are considered as the most noticeable hub of departure for leveraging many dimensions of environmental and human development ambitions. The issue is still alive and dynamic so that General Assembly at the United Nation's has included it in its meeting agenda – being held in 2017 - as one of the core discussion points.

Over the years, sustainable development goals (SDGs) attracted the attention of researchers (Biermann et al., 2017; Hak et al., 2015; Holden et al., 2017). The role of accounting in advancing sustainable development in the countries is a vital SDG theme that emerged over time (Guthrie et al., 2010). However, there is little research that investigates issues related to auditing and monitoring of the implementation of SDGs in its new format. In the last three decades, considerable efforts have been made in the area of development of supreme audit institutions (SAIs) so that SDGs and their implementation can be harmonized (Reichborn-Kjennerud & Johnsen, 2018). One such effort is the development of an international body which is called the International Organization of Supreme Audit Institutions (INTOSAI). The said institution provided an institutional framework for supreme audit institution "*to promote development and transfer of knowledge, improve government auditing worldwide and enhance professional capacities, standing and influence of member SAIs in their* respective countries" (INTOSAI, 2019). For achieving specific goals, INTOSAI works in coordination with the United Nations and member countries' SAIs.

In Saudi Arabia, the General Auditing Bureau (GAB) is the representative of the Kingdom in the INTOSAI. GAB organizes seminars and workshops with a view to exchange knowledge and experience and to harmonize the auditing process. One such event is the 15th GAB Annual Seminar named as *"Auditing the Implementation of Sustainable Development Goals (SDGs): Challenges and Issues of the Preparedness Phase"*, hereafter referred as the "15th GAB Annual Seminar" or "the Seminar". It was held on the 6th of May 2018 in Riyadh, Saudi Arabia. It was an international forum where the GAB, the UN and INTOSAI worked together for supporting SAIs implementation internationally. Furthermore, this meeting ensured to successfully achieve the desired momentum by auditing the process at all levels. It also provided a platform for getting an in-depth understanding of the interrelated functions of the SAIs, INTOSAI, and UN. Several discussions related to the current themes as well as challenges were being organized; the main aim of which was highlighting the positive and negative aspects of SDG implementation at both national and international level.

The present research study intends to perform an in-depth evaluation of the institutions in order to understand their structural and professional mechanisms coupled with highlighting the challenging aspects which might hinder the performance efficacy to a great extent. Besides that, the research aims to analyze the phenomenon and hence propose all possible strategic frameworks which can bridge the identified gaps.

The research has been divided into different sections. It begins with an introduction which is followed by a well structure literary analysis. The third chapter has detailed methodological interventions which have been adopted to conduct the study. Finally, Synthesis of research symposia, discussions and research papers that were presented in the research conference have been included along with conclusion and recommendations.

2. Background Review of the SDGs

Before indulging in the evaluation of SDGs, their implementation and auditing, it is important to understand what SDGs are and the need for SDGs. In 2015, the UN and its member states, jointly established an ambitious and long-term plan, entailing broad issues by adopting the 2030 SDGs agenda. The UN declaration pledges that no one should be left behind and emphasizes that it is primary responsibilities of the member governments that they should assume primary responsibility to evaluate the national and regional performance targets and ensure that these plans should be implemented in their letter and spirit so that by the year 2030 SDGs can be achieved.

Brissett (2018) emphasized the importance of SDGs and argued that SDGs would contribute to bringing social change by elevating poor states and by universalizing the global economic system. The recognition of key economic and environmental problems of the less developed countries may eradicate these problems and reduce the power and wealth gap between the rich and the poor. Mawdsley (2018) calls attention towards the role of the private sector and suggested that in addition to public sector investor in SDGs, the need for private sector involvement and financing is also important. Such involvement would convert spending from 'billions to trillions' and would be beneficial for private sector enterprises. On the national level, when private sector enterprises involve themselves in SDGs, it would reduce the burden on the public sector and decrease reliance on non-state factors.

SDG implementation is a highly complex phenomenon entailing different challenging situations and aspects which are particularly related to professionalism, innovation, setting benchmarks and effective implementation of International Standards of Supreme Audit Institutions as being put forth by INTOSAI (2016). As an outcome, the Forum of INTOSAI Professional Pronouncements (FIPP) developed the overall process and further took many initiatives to process it. The technical experts of FIPP took responsibility for content development, consistency, and quality of IFPP. INTOSAI (2016) urged stakeholders that an on-going focus on improving professional pronouncements and standard-setting processes will ensure a high degree of capacity development along with ensuring an increased level of performance. For this, INTOSAI has to promote the use and implementation of ISSAIs.

The revision and the standard setting projects of INTOSAI are expected to end in 2019. INTOSAI (2017) conducted a symposium in Vienna and discussed opportunities and challenges of digitalization, open data, and data mining. Where development related to information and communication technologies are creating opportunities, the massive information generation is creating challenges for determining qualified audit-related information. This calls for increased involvement and role of SAIs for maintaining the quality of information through their audits.

After presenting an account of SDGs, the need for implementation and associated challenges, the next step in the process is to analyze auditing and associated challenges. Sachs & Schmidt (2017) highlighted the importance of evaluating the level to which performance targets and the mechanism for analyzing such level. They suggested that the commitment of the member state governments to the SDGs necessitates the auditing of the communication of the SDGs guidance and the preparedness for implementation, and the sharing of learning experiences. This necessitates the national SAIs to play a key role in their respective jurisdiction and the involvement of INTOSAI as an international partner to the United Nations. Moreover, national SAIs can contribute by tracking progress and monitoring implementation for identifying improvement opportunities.

As part of the enhancement of auditing capacities, the two support bodies of INTOSAI, INTOSAI Development Initiative (IDI) and the Knowledge Sharing Committee (KSC), raise awareness by exchanging knowledge and experience, for supporting and encouraging SAIs in SDGs implementation. Such support comes in the form of intensive training courses, satellite and partnership programmes, training workshops and organizing related events. An example of this is INTOSAI's congress in Abu Dhabi. It identified four approaches through which INTOSAI and SAIs can participate in the achievement of the SDGs, namely, (1) evaluate member states' readiness (2) audit performance (3) participate in achievement and (4) prospects towards best practices (22^{nd} INCOSAI Report).

Research of Yonehara et al. (2017) argued that the achievement of SDGS relies mainly on practice-based monitoring and evaluation. Earlier, Bamberger et al. (2016) argued that instead of delaying it 2030, one should periodically review and audit the implementation process of goals and policies. Since the process of monitoring and evaluation in the first-phase is crucial as stakeholders are rushing towards the development and implementation of SDGs. Yonehara et al. (2017) re-conceptualizes the developmental matters of each phase and divided the SDGs program into three phases (table 1).

Table 1. Phases for SDGs evaluation

Phase	Activities	Evaluation Concern
Phase 1 (2016–2020)	Planning and initiation of major programs	-Proactive evaluation -Evaluability assessment
Phase 2 (2021–2025)	Project continuation, modification, improvement, addition	-Monitoring -Formative evaluation
Phase 3 (2026–2030)	Project completion Follow-up	-Outcome evaluation -Impact evaluation

Source: Yonehara et al. (2017)

Since the first phase has been concluded successfully, so one of the significant steps at this stage has been identified as performing an analysis of the preparedness level which will help in identifying the structural gaps and shortcomings while ensuring the development of coherent and well-versed programs in the future. Referring to work of Yonehara et al. (2017) and table 1, once SDG related programs, the analysis has identified a dire need of developing a stringent and robust monitoring system to evaluate the effectiveness, efficiency, and economy of the projects. This calls for the development and testing of monitoring and evaluation frameworks so that results can be substantiated.

Moreover, the situation also calls for the development of results and effect assessment related to target outcomes. Spangenberg (2017) argued that SDGs are diverse and have many inherent contradictions, so an impact monitoring and evaluation framework is needed. One has to look at the driving forces, pressures, states, impacts, and responses for looking at the challenges. In the case where the assessment fails to derive the desired outcomes, the next step would the evaluation of implementation aspects to identify any needed up gradations adhering to the situational requirements.

3. Methodology

The research has been focused on understanding and evaluating the implication of SDG in coherence with the structured plan which was designed in 2015. The discussions and seminars continued in 2016 at INCOSAI (Abu Dhabi) and the 2017 UN / INTOSAI symposium. The core theme of 15th GAB seminar was an evaluation of challenges and issues that SAIs had to tackle during the preparedness phase. This study aimed at updating the state of challenges faced in the preparedness phase and used secondary data obtained from previous conferences, seminars, congresses and symposiums on auditing of the implementation of SDGs particularly by INTOSAI and its affiliate organizations or partners.

The research has been conducted following a secondary data approach within the context of interpretivism paradigm. The existing discussions, panel arguments as well as presented points have been analyzed in order to perform an audit of the preparedness activities. As a direct participant in the seminar, the researcher had gained knowledge about all the staged of preparedness which helped in further evaluating and assessing the data set while contributing to authenticity, reliability, and validity of the subjected research. Additionally, the proceedings of the seminar were electronically recorded and were made available to the attendees on request. The researcher used the recorded proceedings and identified key themes and related discussion.

Following 22nd INCOSAI Congress and the 24th Symposium, in 2017, 15th GAB seminar was held in Saudi Arabia. The seminar aimed at extending the discussion on the audit and follow-up of SDGs through the provision of a platform for gathering senior officials and experts from an international and regional organization, local government and other concerned stakeholders who are involved in the implementation and audit of SDG. The core data for analysis was obtained from the discussions and talks delivered at 22nd Abu Dhabi INCOSAI, the 24th Vienna INTOSAI Symposium, and the 15th Riyadh GAB Seminar. The secondary data, analysis and results or findings depend on the common ground as well as the divergence among the data sources. Moreover, it should be noted that the data are discussions, deliberations, recommendations or declarations that ensued from panel discussions and debates, and hence, the absence of presented papers might have a limitation of not being quoted or referenced.

Since the researcher had participated in the conference as an organizer, the opportunity to be included in all the activities and stages doubled the effectiveness of conducting this research along with increasing the reliability spectrum of the study. The opportunity to plan, convene, organize and follow the 15th GAB seminar added to the researcher's existing knowledge base. Acting in the senior role, the researcher had the opportunity of interacting with the key speakers and moderately related sessions.

Three key themes that were identified in the seminar were (1) evaluation of the current state of institutions and professional mechanisms for the implementation of SDGs, (2) analysis of challenges that may hinder effective implementation of such SDGs and (3) analysis of frameworks for solving the challenges and/or filling the gaps. The recorded proceedings of 15th GAB seminar were evaluated and findings were synthesized. It is important to highlight that synthesis was made on the experience of the key informants as well as key literature on the topic. The experiences evaluated were the ideas of the key informant (people knowledgeable about the research questions) who participate in the forums, panel discussions and debates. Moreover, findings are also based on a literature search (survey) since the researcher used existing for achieving research aim.

The nature of the data might arguably be criticized as being subjective. However, since those who presented or led the panel discussion and those who attended the seminars, conferences, congresses, or symposiums were very well informed and updated on the issue of the audit of the implementation of the SDGs, and during discussion, attendees had the opportunity to evaluate other's responses, ask question(s) and contradict, so it can be argued that data used in this research was unbiased.

4. Analysis

The Discussions are made at the 15th GAB Seminar include the challenges of non-uniformity of existing institutional structures and cultures for strategy development for auditing SDGs at the national level; and regional cooperative audit and the role of the supranational entities in SDG implementation. The conference covered different areas of SDGs including the current stage of auditing co-operative performance audit on preparedness in implementing the International Standards of Supreme Audit Institutions (ISSAI).

This research paper has integrated different themes that were covered in the 15th GAB Seminar. The main focus of this research paper is on the (1) evaluation of the current state of institutions and professional mechanisms for the implementation of SDGs, (2) analysis of challenges that may hinder effective implementation of such SDGs and (3) analysis of frameworks for solving the challenges and/or filling the gaps. In order to support readership, findings are linked with each of these themes.

4.1 Evaluation of the Current State of Institutions and Professional Mechanism

The first theme was the evaluation of the current state of institutions and professional mechanisms for the implementation of SDGs. Based on the synthesis of discussions held in 15th GAB seminar and analysis of literature, the researcher found that since its inception in 2015, the SDGs agenda of the UN and its implementation and auditing received due to support from all over the world.

UN and its member states are the owners of the Agenda, and the UN General Assembly takes up the responsibility of setting up regulatory and implementation frameworks. In 2012, the UN established the central or main platform of sustainable development at the UN level, called United Nations High-level Political Forum (HLPF), which later took the responsibility to *monitor* of the 2030 SDGs. It should be regarded as the first move of the UN towards supporting the SDG with institutional backing. This forum replaced the Commission for Sustainable Development of the UN. The format and organizational aspects of the forum are outlined in the UN Resolution 67/290 of 2013. The High-level Political Forum provides the full and active participation of the UN member states and its specialized agencies, and it adopts intergovernmental negotiated political declarations.

Under the auspices of the UN General Assembly, Economic and Social Council of the UN will organize the annual meetings of the HLPF. Moreover, the United Nations Department of Economic and Social Affairs (UNDESA) and its divisions have been and will work on the common goal of SDGs and collaborate with its regional and country level partner. This will strengthen cooperation among stakeholders. Moreover, as per UN Resolution 70/299 of 2016, UNDESA assumes the responsibility of reviewing and following up implementation and progress of SDGs during 2017-2019. Division for Sustainable Development Goals (a Division of the UNDESA) acts as the Secretariat for the HLPF. It provides support in capacity building for the attainment of 17 SDGs and their related thematic issues (Division for Sustainable Development Goals, 2017).

United Nations Development Programme (UNDP), another UN body, advocates the UN's international development network and support in improving and connecting member states (Turner, 2008). UNDP supports the implementation of SDGs by fostering sustainable development, democratic governance and peacebuilding, and climate and disaster resilience. It works with the United Nations Development Group (UNDG) for the eradication of poverty.

Besides its role as a partner for development work and manager of the Resident Coordinator system, UNDP assists in reinforcing joint efforts on development in forums like Economic and Social Council and the General Assembly of the UN. Shah (2018), Deputy Assistant Administrator and Chief Finance Officer of the UNDP and a speaker at the 15th GAB Seminar states that the UNDP:

(1) Tailor challenges and commitments at country level needs,

(2) Bring knowledge achieved from across the world,

(3) Provide access to UNDP tools vital

(4) Provide integrated solutions to complex problems

(5) Support the UN development system at the country level.

(6) Identify means (tools, finance, and technology) for implementing the 2030 Agenda

(7) De-risk projects, and

(8) Help countries in broadening the pool of partners.

Finally, in order to put in place a strong follow-up and auditing mechanism for the implementation of the SDG, the UN adopted a robust framework of key performance measures. It provides statistical information to review progress, inform policy, and ensure accountability of all stakeholders.

Steiner (2018) from INTOSAI General Secretariat and one of the speakers at the 15th GAB Seminar, highlighted that the UN in its resolutions 66/209 of 2011 and 69/228 of 2014 recognized the need that SAIs should be independent and promote transparency, efficiency and responsibility of public management in achieving SDGs. Resolution 66/209 of 2011 of the UN General Assembly, titled "*Promoting the efficiency, accountability, effectiveness, and transparency of public administration by strengthening supreme audit institutions,"* promotes that the SAIs must be independent. It is "the crowning conclusion of the common efforts of all SAIs to strengthen their independence and for recognition of the Lima and Mexico Declarations." (UN Resolution A66/209).

This resolution supports the independence of SAIs from their respective governments or audited bodies and mandates them to perform their professional duty. Secondly, in Resolution 69 / 228 of 2014 titled *"Promoting and fostering the efficiency, accountability, effectiveness, and transparency of public administration by strengthening supreme audit institutions"*, the UN General Assembly recognizes that SAIs can achieve their duties impartially and effectively only if they are independent and are saved against any pressures. It also recognizes the significant role of SAIs in promoting many important governance concepts (e.g., efficiency, accountability, effectiveness, and transparency) related to administration of public institutions, which assist in accomplishing the planned national and international development targets and priorities (Resolution 69 / 228 of 2014).

It is indicative that the two UN General Assembly resolutions establish the basis for institutional and professional backing and the endorsement of the SAIs of the Member States and their global organization, the international organization of SAIs, the INTOSAI. Thirdly, in 2015, the 23rd UN/INTOSAI Symposium reaffirmed the position of the SAIs concerning sustainable development as the core theme of the UN Post-2015 Development Agenda (the 23rd UN/INTOSAI Symposium Report).

It is suggested that the role of INTOSAI in the auditing process of SDGs has also indirectly been affirmed on the Symposium, and the INTOSAI included the SDGs as the important theme of its Strategic Plan for 2017-2022. The Report recommendation states: "The United Nations expects INTOSAI and the national SAIs to develop the necessary standards and capacity to be able to contribute to the implementation and the achievement of the Sustainable Development Goals, for example via national oversight and control mechanisms".

The main function of IDI is the provision of capacity building training to regional and national audit bodies. It also supports the Knowledge Sharing Committee (KSC) for fostering knowledge sharing, transferring experience, and skills among the SAIs. Fifthly, the INTOSAI Congress (INCOSAI) of 2016 held in Abu Dhabi stressed on the professionalism of auditing and innovation in standard setting that is aimed at revising and implementing the ISSAI framework. As a result Forum of INTOSAI Professional Pronouncements (FIPP) was developed for revising the due process for INTOSAI's Framework of Professional Pronouncements.

Monroe-Ellis (2018), in her speech on the GAB Seminar highlighted the case of Jamaica that has been at the forefront of the SDG program. She highlighted that Jamaica had developed its development plan in 2009 coincidently naming it Vision 2030. It is highly with United Nations SDGs. Regarding Jamaican government planning of SDGs implementation, Mrs. Pamela Monroe-Ellis noted that (1) the government is currently developing a roadmap for SDGs implementation thus outlining the critical steps to achieve the 2030 agenda, and (2) involving a number of key government Agencies, namely the Planning Institute of Jamaica, the Ministry of Foreign Affairs, and the Statistical Institute of Jamaica, to collaborate in the planning and implementation process.

The Report also affirmed INTOSAI's role of “ensuring standard-setting, knowledge-sharing, capacity development goals and other initiatives that are coordinated effectively in order to support the professional capacity of SAIs, including the ability to audit national development goals and the related SDGs” (23rd UN/INTOSAI Symposium Report). This is another indicator that the INTOSAI and the UN have put in place the professional preparedness for the implementation of the SDGs. Fourthly, as part of setting the professional preparedness, INTOSAI developed a support body, INTOSAI Development Initiative (IDI).

Additionally, the SAI of Jamaica has been active in its contribution and support government endeavors. It held meetings with the Jamaican Statistical Institute to determine the process to identify relevant stakeholders. This was in line with the holistic approach to planning the SDGs implementation. Moreover, SAI Jamaica gathered quite a bit of information during its audits and provided meaningful information to the Statistical Institute keeping its status of remaining independent and objective.

4.2 Evaluation of Challenges Hindering Implementation

The second theme of GAB was the analysis of challenges that may hinder effective implementation of such SDGs. Based on the synthesis of discussions held in 15th GAB seminar and analysis of literature, the researcher found that even though the actions taken by the UN show that there is global institutional preparedness for implementation of SDGs, the 15th GAB Seminar showed that there were some vital requirements to be considered for facilitating the institutional preparedness.

(1) *Consideration at the UN level:* According to the 15th GAB Seminar, the speaker from the United Nations Office of Internal Oversight (UNOIOS). Mendoza (2018) suggested that there were still some risks for developing the auditing of SDGs that were identified by the UN General Assembly. These risks were:

a) The agenda was not matched by the significant increase in resources needed;

b) UN SDGs may not have established a policy to support the needs assessment of member states in identifying resource gaps;

c) Secretariat programmes may not have the strategic funding policy to advocate for the agenda 2030 and for supporting member states with capacity building programmes;

d) The Secretariat may not have a holistic strategy at the international, regional and global levels to support high-level political reform in enabling member states with the means of implementation; and

e) Programmes may not have mechanisms to coordinate the implementation of SDGs in programmes of work.

(2) *Planning approach consideration at the national level:* Mr. Darshak Shah (2018) highlighted that SDGs implementation requires a holistic approach and cooperation among stakeholders. He argued that governments planning systems were not yet fully geared to include all groups of stakeholders in the planning phase and suggested more specifics on planning approach.

Mihm (2018), the Managing Director of Strategic Issues, US Government Accountability Office reminded on GAB Seminar that the whole government approach of planning should (a) focus on the expected performance in a cross-cutting way that look across individual programmes and ministries (b) consider vertical integration of programmes at National level down to a more localized implementation level (c) require government to be focused on innovation for systematically finding new, different, and more creative ways to achieve results.

(3) *Diversity in planning approach:* It is reflected that there is no uniformity of government planning systems that would be fully geared to include all groups (stakeholders and sectors) in the planning phase. Regarding this, Mr. Darshak Shah (2018) noted that some countries still need to ensure the adequacy of institutional architecture and platform, suggesting that the non-uniformity in the planning system would risk the achievement of the motto of the SDG Agenda *"No None is Left Behind"* and the issue should be addressed at the global, regional, and national levels. He also suggested that SDGs can be implemented if the government adopts a holistic planning approach by involving all categories of stakeholders.

(4) *Diversity in risks:* It was indicated in the 15th GAB Seminar that there were risks of the diversity of countries that may influence the uniformity of implementation of the SDGs. Mr. Darshak Shah (2018), argued that countries face different types of risks including geographical, political and societal risks. He highlighted the need for engagement of multiple sectors of society along with difficulty in tracking, monitoring and quantifying results and success.

(5) *Diversity in quality and comparability among the Member States:* It is evident that there is a difference in culture and institutional infrastructure among the member states. This might influence diversity in quality and comparability of SDGs implementation and the audit approach and activity. Mrs. Heidi Mendoza (2018) stated that Secretariat programmes might not have prepared *statistical programmes* with the necessary capacity to support member states to improve gaps in quality and comparability. This necessitated the preparation of statistical programmes that would enable the improvement of quality and comparability for detecting gaps and enhancing catch-ups for harmonization.

Even though stakeholders are making necessary efforts for implementing the auditing of the SDGs, it is still questionable whether there is uniformity at national level SAIs. There are some serious problems or challenges stated by the speakers on the 15th GAB Seminar. The challenging issues that the UN, the Member States of the UN, INTOSAI, and SAIs need to address and solve the followings.

(1) The absence of data at the national level to national audit bodies: As Mrs. Heidi Mendoza (2018), the under-secretary for the United Nations Office of International Oversight (OIOS) stated on 15th GAB Seminar, this problem was the obstacle to ensure policy implementation at national, regional and global levels.

(2) Lack of independence of SAIs: According to Mrs. Pamela Monroe-Ellis (2018), Auditor General of Jamaica and the speaker at the 15th GAB Seminar, the lack of independence was related to the governance system in place. She stated that this problem could render SAIs unable to respond promptly to evolving dynamics thus running the risk of being unable to maintain relevance besides impairing the objectivity and effectiveness of SAIs. Dr. Silke Steiner (2018) from INTOSAI General Secretariat, and a speaker at the GAB Seminar, suggested that the obstacles to SAIs as reviewed by IDI report of 2017 made by the SAI Global reveals that SAIs were hampered in the general performance by constraints in their operational, legal, and financial independence. Noting this is worrying, she suggested that only Independent and capable SAIs can

effectively contribute to the successful implementation of SDGs and that household limited financial Independence and limited rights with regards to the publication of audit reports had a negative impact on the capacity of SAIs. This indicated the requirement of making SAIs independent regarding operational, legal and financial perspectives.

(3) *Diversity in the involvement of SAIs in requests for support in implementing SDGs:* It is raised in the GAB Seminar that there is non-uniformity in the involvement of SAIs in orientations and pieces of training in the national and international plans and the focus was mostly the consideration of the mainstreaming the SDGs in the plans. This was taking out the important body, the SAIs, out of the equation in which they have a vital role in auditing implementation of the SDGs. Mr. Darshak Shah (2018) noted *that* Saudi Arabia, to the contrary, was continuing to make good progress in considering SAIs for orientations and training.

(4) *The trade-off between complexity and quality in SAIs work:* On the Seminar, Mr. Khalid Hamid (2018), Chairman of INTOSAI Financial Auditing, Accounting Subcommittee, and the Supervisory Committee on Emerging Issues, and a speaker at GAB Seminar suggested that the relevance of SAIs rests on two dimensions of complexity and quality. This might be suggested that as the complexity of the SAIs work enhances, the quality of the work may decrease. Linking to ISSAI 12, which defines the operational principles of SAIs in accordance to the fundamental expectation of making a difference to the lives of citizens, he notes that the real value adding of SAIs is related to public interest and hence the whole public assurance process. This suggested the requirement of hard work of SAIs to take upon their responsibility to the public interest to counter the trade-off between complexity and quality. Related to non-uniformity of complexity dimension of SAIs work, he suggested that the concept of scalability poses difference of doing full-scale work and focused work and that in small countries no need to do full ISSAI audits and hence they can do risk-based limited amounts as in large countries.

(5) *Approach to auditing:* The traditional approach to auditing financing and compliance audit. Mr. Christopher Mihm (2018), the Managing Director of Strategic Issues, US Government Accountability Office, speaking on GAB Seminar highlighted that a *holistic approach to auditing* had to be evolved. He suggested that the traditional financing and compliance audit would remain bedrock to what we do in the value and benefits they will provide to our citizens. He suggested that in the governance complexity being witnessed and the new tools and mechanisms that governments are using to implement the SDGs; such tools, the mechanisms, and the methodologies for audit should evolve with the complex arrangements of governance process and structure the government uses and the activities that are being used to implement the SDGs and finally the resulting outcomes or achievements.

He added that auditing must evolve to the *holistic approach to auditing*, in which the traditional approaches of financing and compliance audit will remain the bedrock and that the tools, the mechanisms and the methodologies for audit should evolve to cop up with the new tools and mechanisms the governments are using to implement the SDGs that arose with complexity of governance and ensuring arrangements. Auditing should look at the outcomes or achievements of the governance processes and structures and activities used to implement SDGs.

(6) *Approach to audit plan:* The recommended approach to the audit plan of the SDGs raised on GAB Seminar is the thematic approach to audit plan that needs to be developed. Mrs. Pamela Monroe-Ellis (2018), Auditor General of Jamaica, states that they used five themes – project plan, resource management, technology, governance, and procurement - in audit plan intended to assess the effectiveness of the government plan to implement the 17 SDGs and to review the economic performance of key ministries such as Ministry of Finance to ensure fiscal prudence and responsibility. Our plan also spans issues of a social and economic nature.

(7) *Approach to reporting:* It is noted on the GAB Seminar that the whole concept of integrated reporting is moving away from the purely financial reporting that most governments and even the UN system are used to. Regarding SAIs reporting, Mr. Darshak Shah (2018) noted the need to move in the direction of *integrated reporting* (from financial reporting) and then the *SAIs have to start to audit the process of integrated reporting*. The auditing and evaluation must always be aligned with national capacities.

Highlighting the case of Jamaica, Mrs. Pamela Monroe-Ellis (2018) highlighted the priority given by SAI Jamaica to the preparation of *the Strategic Plan* of its own as a development plan. The plan links its strategies with the 12 principles in ISSAI 12 such that SAI Jamaica remains relevant through the delivery of high-quality reports with actionable recommendations to meet stakeholder needs. To be able to cop up with this task, SAI Jamaica needed to build capacity by taking steps to rank audit candidates based on the impact on the outcome of its development plan.

Additionally, SAI Jamaica has developed the *thematic audit plan 2017-2019* to audit the effectiveness of the government plans to implement the 17 SDGs. This audit plan reflects five fundamental themes, namely (1) project planning, (2) resource management, (3) technology, (4) governance, and (5) procurement. This framework would enable SAI Jamaica to assess and audit the government plans and its implementation progress and to ensure whether everything is on the right track.

Moreover, SAI Jamaica is required to consider the economic side and hence to review the economic performance of the Jamaican Ministry of Finance in keeping track with the legislated fiscal targets. This is a critical element of the mechanism to safeguard and engender fiscal prudence and responsibility. These steps of SAI Jamaica indicated that it is worthwhile to take a proactive role in professional auditing rather than taking a reactive position. Furthermore, recognizing that it must be engaged in multifaceted audit approach to achieve better audit outcomes, SAI Jamaica pursued a *stakeholder engagement* enhancement process. To this effect, through the initiative led by IDI, SAI Jamaica has recently completed and published the stakeholder engagement.

Mrs. Pamela Monroe-Ellis highlighted that this approach (1) could be used to identifying and directing limited resources to areas of greatest need, (2) would play an essential role in scrutiny and advocacy, and (3) would develop the understanding of stakeholders and further the mandate of the SAI Jamaica by amplifying its role. Hence, SAI Jamaica has had many discourses with civil society representatives. Regarding the technical expertise of human resources for auditing, Mrs. Pamela Monroe-Ellis informs that SAI Jamaica included economists along with experts from other areas. This suggests that it is not only accountants' expertise is enough to implement the auditing of the complex SDG implementations and that accountants, statisticians, and others are required.

In order to make sure of preparedness for the expected assessment and evaluation in the auditing process, SAI Jamaica worked closely with the Jamaican Statistical Institute. It held meetings to determine the process of identifying relevant stakeholders and providing meaningful information to the Statistical Institute. Hence, SAI Jamaica gathered information during their audits and hence could assist in contributing to the completion of the 39% of 223 relevant indicators that the Institute could not have produced yet.

Finally, on the regional INTOSAI, Caribbean Organization of Supreme Audit Institutions (CAROSAI), Mrs. Pamela Monroe-Ellis (2018) highlighted three priority areas in support of this outcome at CAROSAI level, namely, (1) attainment of high quality audits creating regional impact through collaborative and parallel audits, (2) use of strategic performance measurement and reporting tools for effectiveness and capacity building and professionalization of SAIs, and (3) use of active stakeholder engagement techniques to maintain relevance by building trust and confidence among stakeholders so as to have greater audit impact.

4.3 Solutions for Solving Challenges and Filling Gaps

The third theme was the analysis of frameworks for solving the challenges and/or filling the gaps. Following the presentations of the speakers and the discussions of the participants of the 15th GAB Seminar, different complementing remarks of importance were noted that could serve as recommendations on the issues and challenges that were mentioned earlier in this paper. It was observed that due to the complexity of the 2030 Agenda, and the overlapping nature of governance complexity of the programmes and outcomes, and noting that the government (its ministries and agencies) must work together using a holistic approach or *whole government approach,* Mr. Mihm and others suggest the following recommendations:

(1) There is a need to be able to focus on performance across the governance bodies, where there must be a horizontal integration across various ministries, and vertical integration at the national level that involves civil society and stakeholders' engagement so that it creates the whole government approach.

(2) The governments need to be focused on innovation, which is required by the whole government perspectives. They should systematically look for new, different, and more creative ways in order to achieve results. This calls for investment in technology.

(3) The governments need to be using data and evidence to drive decisions, and the plenty of evidence gaps discussed in the Seminar should be filled and identify what works.

(4) Governments need to manage systematic risk across the entire enterprise across a delivery network of organizations or activities rather than the risk of any individual organization or activity in order to identify the riskiest partner not only from government bodies but also from a contractor or the civil society organization.

(5) Governments need to adopt appropriate collaborative mechanisms and network management by putting in place appropriate institutional arrangements as part of the silo-busting approach.

(6) Governments need to build organizational capacity at the center of government in order to enhance new and different ways of doing business in order to leverage the capacity of doing outside the center. This requires building capabilities in the strategic management that requires capabilities in in-depth data analysis and all others.

(7) Governments must employ strategies for public engagement openness and transparency such that they are told the critics or views heard from society.

(8) Audits must evolve, and the concept referred to as a holistic approach of auditing in addition to the traditional approaches to financial compliance. It is needed to make sure that the tools, the mechanisms, and the methodologies put in place for audit evolve in tandem with the complexity of the arrangements used by governments to implement the 2030 Agenda.

5. Conclusion

This research paper recalled the core of the 15th GAB Seminar by evaluating and synthesizing key themes related to the implementation of the SDGs both on the national and the international level. The analysis made has shown that the presentations and discussions at the 15th GAB Seminar indicated there is institutional preparedness for implementing the SDGs and that there is professional preparedness for auditing the implementation of the SDGs.

The exploratory analysis of the global institutional preparedness indicates that (1) the necessary institutional frameworks for coordinating, following-up, and reviewing have been established at the UN level, and (2) UNDP has been functioning at global and country levels and harmonizing the diversity of cultures, which is one of the themes of the 15th GAB Seminar. UNDP is serving the role of advisory, coordination and integrating roles and offering the services noted above. Additionally, the analysis of the requirements for institutional preparedness from the 15th GAB Seminar presentations and discussions on diversities related to institutional preparedness suggests that there are specific areas of priority for achieving harmonization among the Member States due to the existing cultural diversity among them. This is very important for ensuring the motto of the UN on SDG Agenda, namely, "*No One is Left Behind*."

Moreover, there is an indication from the analysis that the necessary professional preparedness for implementing the SDGs has been put in place at the global and national levels. Even though there is the necessary preparedness for implementing the auditing of the SDGs, it is still questionable whether there is uniformity at national level SAIs. There are some serious problems or challenges stated by the speakers on the 15th GAB Seminar. The challenging issues that the UN, the Member States of the UN, INTOSAI, and SAIs need to address and solve are specified on the Seminar. Based on the synthesis of GAB, future researchers and conferences should corroborate the points raised in the paper to evaluate their relevance and implementation in other contexts (for example, countries, SAIs, etc.).

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The Relationship between Servant Leadership, Organizational Citizenship Behaviour, and Dysfunctional Turnover

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Abstract

The purpose of this conceptual paper is to provide a framework to enhance the understanding of factors that influence the turnover rate among high performers in an organization. The focus of this proposed conceptual framework is the study of the relationship between leadership style, organizational citizenship behaviour, and dysfunctional turnover. Based on literature reviews, evidences reveal a negative relationship between servant leadership and dysfunctional turnover which is mediated by the variable of organizational citizenship behaviour. From a practical standpoint, this paper provides additional knowledge in the area of dysfunctional turnover which can assist the relevant stakeholders in an organization to reduce brain drain and enable HR practitioners to have a better understanding on how to reduce turnover rate among high performers; whilst at the same time, contributing to the existing number of valuable researches that provide the much-needed knowledge in understanding the turnover phenomenon. Hence, there is a need to conduct an empirical based study to validate the proposed conceptual framework and to ascertain the relationship among the various variables in this framework.

Keywords: dysfunctional turnover, servant leadership, organizational citizenship behaviour

Paper Type: Conceptual paper

1. Introduction

In this highly competitive business world today, for an organization to remain relevant and successful, it needs to focus on developing core competencies and creating competitive advantage. One of the most critical resources that an organization can exploit to achieve these goals is in the area of human resource. Organizations need to focus on maximizing the use of their employees' skill-set and knowledge but more importantly, recognize consistent high performing employees who contribute towards the organization's corporate and financial goals. Hence, in order to maintain high performance, organizations need to set as one of their main agendas, the identification of these high performers and the subsequent employment of strategies to reduce the rate of voluntary exit of these talents.

In recent years, human resource practitioners and scholars have identified the need to retain employees as the cost of turnover is very high (Chang, Wang, & Huang, 2013; Smith & Macko, 2014; Cho, Rutherford, Friend, Hamwi, & Park, 2017). The tangible cost is the cost of hiring and training new employees while the intangible costs include the loss of a bank of knowledge as the employee's knowledge and skillset will leave with him or her (Hom & Griffeth, 1995). Furthermore, the loss of employees also disrupts the organization's ongoing projects causing delay if one of the team members of the project resigns (O'Connor & Kung, 2007). Thus, it is crucial to ensure that the turnover in an organization is manageable in order to maintain cost effectiveness and organizational performance.

It should also be noted that the turnover of certain groups of employees affect an organization at a higher level of cost. Call, Nyberg, and Polyhart (2015) empirically concluded that the turnover of high-performance employees cost as much as 45% more to an organization compared to the turnover of mediocre or average employees. In this context, a high-performance employee is defined as an employee that consistently performs well and is critical to the success of the organization. In a worst-case scenario, this critical employee leaves the organization and joins a competitor. This will increase the competitor's competencies while affecting the former organization's performance and market share.

In their review of published literature on the relationship between leadership and organizational performance, Jing and Avery (2008) noted that leadership was an important management component in ensuring that an organization achieved its financial and non-financial goals. In a similar vein, Chan (2010), and Pradhan and Pradhan (2015) argued that managers and their leadership styles determined the success rate of an organization in achieving its goals and objectives. These authors' views support the argument that leadership style is one of the better predictors of organizational success.

Another important indicator of an organization's success is its ability to reduce the rate of turnover among the employees (Ramlal, 2003). Recent studies conducted by Waldman, Carter, and Hom (2015), Caillier (2016), and Mittal (2016) concluded that leadership style influenced employees' decision to leave an organization. Their findings reveal that employee turnover can be predicted based on the type of leadership employed.

Gilbert and Benson (2004), and Liu, Siu, and Shi (2010) stated that immediate supervisors influenced employees' work lives either positively or negatively. This is due to the reason that supervisors have the greatest impact on their subordinates' work demands and social supports. Furthermore, Jaramillo, Grisaffe, Chonko, and Roberts (2009a) found that the current literatures on turnover suggested that turnover is associated with the quality of relationship between subordinates and supervisor. For example, Nonis, Sager, and Kumar (1996) concluded that employees were more likely to leave an organization when they were not satisfied with their supervisors. Hence, these arguments and findings provide the evidence that warrant a critical investigation on the relationship between immediate supervisor's leadership style and dysfunctional turnover in an organization.

2. Literature Review

2.1 Dysfunctional Turnover

Employee turnover is one of the most pressing problems faced by organizations on the global stage. It is not difficult to understand this situation as employee turnover has been linked to various negative consequences to an organization in terms of financial cost and organizational effectiveness (Mobley, 1982b). Hence, this area of research has gained the attention of scholars since the emergence of scientific based study on the art of management in the early part of the 20th century (Hom, Mitchell, Lee, & Griffeth, 2012). Researchers have conducted various studies from developing a turnover model to finding the antecedents and the consequences of turnover in an effort to gain a better understanding of this phenomenon.

The majority of these studies on employee voluntary turnover were based on the perspective that all turnover is considered a negative outcome for the organization (Johnson, Griffeth, & Griffin, 2000). Yet, there were multiple studies that showed that not all turnovers were bad as there were certain turnovers that were favorable to an organization. Mobley in 1982(b) raised this issue that not all turnovers were detrimental to a firm. The voluntary turnover of employees that did not perform up to the expectation of an organization were much desired by the firm. The voluntary separation of these workers benefitted the firm in terms of a reduction in HR cost and if replacement was needed, this development offered the opportunity for the firm to replace these underperforming workers with better performing ones.

Following this line of argument, in their seminal work, Dalton, Todor, and Krackhardt (1982) proposed that there were two types of employee turnover. Dysfunctional turnover refers to employee turnover that is detrimental to the organization while functional turnover refers to employee turnover that is beneficial to the organization. A study conducted by Dalton, Krackhardt, and Porter (1981) on a population derived from the workforce of Western bank branches found that forty-two percent of the actual employee turnover of the organization were beneficial to the firm. Their findings showed that functional turnover was sufficient large to be allocate a different identification. From an empirical viewpoint, dysfunctional turnover and functional turnover are distinct from each other and affects an organization differently and results in different outcomes.

Though there are limited studies on performance and voluntary turnover relationship (Heavey, Holwerda, & Hausknecht, 2013), the existing published research papers provided evidences that high performers and lower performers reacted differently toward an organization's action to influence employees attitude and behaviour. Nyberg (2010) found that promotion rate and pay growth influenced high performers to remain with the organization while these factors did not affect the lower performers. The explanation given to this phenomenon was that high performers embraced challenges and opportunities while lower performers were more focused on retaining their current position. An earlier work by Allen and Griffeth (2001) supported this conclusion that different employee groups based on their performance criterion had different needs and wants.

In sum, it is highly recommended that research strategies be developed to identify the potential unique causes and consequences of turnover for groups of employees with different levels of performance (Heavey et al., 2013). This will increase our understanding of the turnover phenomenon.

2.2 Servant Leadership

Currently, the most well recognized leadership style is transformational leadership which has been credited in helping organizations to achieve desirable outcomes (McCleskey, 2014). Studies have indicated that transformational leadership is positively correlated with financial performance (Idris & Ali, 2008), improved employee's performance (Walumba & Hartnell, 2011), and increased the level of employee work engagement (Salanova, Lorente, Chamber, & Martinez, 2011). Recently, another leadership emerged which is servant leadership (SL) and it has been identified to be beneficial to an organization as this leadership style proved to engage and develop employees (van Dierendonck, 2011). The foundation of SL is built on the main premise that a leader puts the followers' interest ahead of his own. It is also the responsibility of a SL leader to ensure that his followers achieve professional growth and in turn, enjoy career success (Smith, Montagno, & Kuzmenko, 2004). Hence, this leadership style is known as a people-oriented leadership and is able to enhance the quality of the work environment.

Another important element of SL is that it emphasizes the moral and ethical behavior of a leader (Jaramillo, Grisaffe, Chonko, & Roberts, 2009a; Liden, Wayne, Liao, & Meuser, 2014). Ehrhart (2004) asserted that one of the fundamental elements of SL is the leader's ethical behavior. As SL leaders are governed by a high standard of ethics, their positive behavior will guide an organization towards having a higher level of ethical behavior.

In their effort to develop a SL scale, Liden, Wayne, Zhao, and Henderson (2008) identified seven dimensions for this construct. The seven dimensions are emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first, and behaving ethically. These dimensions captured the essence of SL which is to prioritize subordinates' welfare and ethical behavior. These two core elements of SL differentiate itself from other popular theories such as transformational leadership which also places emphasis on the development of subordinates but is part of the effort in pursuit of the organization's objective and there is also a lack of clearly defined moral component in its construct (Walumba, Hartnell, & Oke, 2010).

In this current tough business environment tainted with major financial scandals in US such as Enron and Lehman Brothers scandals, it is observed that there has been a shift of thought of what type of leader is best for an organization. There is a growing demand for leaders that behave ethically and are people-oriented. SL can fulfill this need of having leaders that are concerned for the employees' well-being and have tendencies to behave ethically (Bobbio, van Dierendonck, & Manganelli, 2012). Jaramilo et al. (2009a) stated that SL represented the highest level of commitment of management to the workers which made this type of leadership one of the most employee-oriented leadership styles. Meanwhile, Searle and Barbuto (2011) stated that SL emphasized that its leaders must consistently display ethical and moral behavior both in the workplace and outside the workplace. Multiple academic studies conducted have found that SL to be beneficial to an organization as their findings concluded that SL influenced employees to engage in positive behavior such as organizational citizenship behaviour (Hu & Liden, 2011), helped organizations to achieve high performance (Melchar & Bosco, 2010), improved leadership integrity and organizational commitment (Bobbio, van Dierendonck, & Manganell, 2012), and enhanced customer service (Chen, Zhu, & Zhao, 2015).

Another important contribution of SL to the organization's high performance is that this leadership style reduces the rate of turnover of employees. Jaramillo et al. (2009a), and Babakus, Yavas, and Ashill (2010) found evidence that managers that displayed SL minimized the intention to leave among employees. This finding was supported by Liden, Wayne, Liao, and Meuser (2014) who made a similar conclusion in their published research paper.

2.3 Organizational Citizenship Behaviour (OCB)

Nearly half a century ago, Katz (1964) proposed that for an organization to function, there were three basic behaviors which needed to be adhered to. These three types of behavior were: people must be induced to enter and remain within the system which basically relates to the recruitment and retention process, they must carry out specific role requirements in a dependable fashion which refers to the need for the employees of an organization to be consistently productive based on their job description and lastly, there must be innovative and spontaneous activity that goes beyond role prescription which refers to the employees' positive enhanced performance behaviors that are not stated in the job description.

With regards to the third category, Katz (1964) noted that "An organization which depends solely upon its blue-prints of prescribed behavior is a very fragile social system". This note made a powerful statement that for an organization to function effectively, it is insufficient to rely on the performance of the employees based on the job description as there is another important element to be considered which is the employees' extra-role behavior. This extra-role behavior consisted of co-operation between the employees, altruism, and other non-compulsory positive work behavior such as willingness to accept temporary imposition and help avoid workplace problems by sharing important information with working colleagues. It is distinct from the contractual and enforceable behavior as this type of behavior which is known as citizenship behavior is not part of the job description. As it is beyond the formal required behavior, there is no possibility of reprimanding action being taken by the employers if the workers are not engaging in this behavior. Yet it is important to the organization as this behavior helps to create a work environment that produces better performance.

This development encouraged researchers to focus on this extra-role behavior. Leading the way was Organ and his colleagues who coined the term of Organizational Citizenship Behavior (OCB) as a construct of this extra-role behavior (Bateman & Organ, 1983; Smith, Organ, & Near, 1983).

In 1988, Organ defined OCB as a discretionary behavior which is not linked directly to or explicitly recognized by the formal reward system. In the same year, Organ proposed a new OCB model with taxonomy of five dimensions which consisted of altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. This framework became the most popular among the OCB scholars who adopted it as a research model in empirical studies due to one of the main reasons being that in 1990, Podsakoff, Mackenzie, Moorman, and Fetter developed a reliable measurement scale to capture the essence of the five dimensions of Organ's 1988 construct (Mackenzie, Podsakoff, & Fetter, 1991; Moorman, 1991; Tansky, 1993).

Podsakoff, Mackenzie, Paine, and Bachrach (2000) proposed that the evolution of causes of OCB can be studied from four perspectives based on the empirical researches in the search of OCB antecedents. The four perspectives are individual / employee characteristic, task characteristic, organization characteristic, and leader characteristic. The antecedents of OCB from the perspective of employee characteristic were job satisfaction, organization commitment, perception of fairness, and leader supportiveness (Organ & Konovsky, 1989; Williams & Anderson, 1991; Moorman, 1991; Tansky, 1993; Lambert, Hogan, & Griffin, 2008) while from the perspective of task characteristic, the type of tasks that influenced the level of engagement of OCB in the work place were task feedback, task routinization level, and intrinsically satisfying tasks ((Podsakoff et al., 2000; Podsakoff, MacKenzie, & Bommer, 1996a). Meanwhile, the relationship between organizational characteristic and OCB was attributed to these six dimensions of organizational characteristic which were organizational formalization, organizational inflexibility, group cohesiveness, level of advisor/staff support, rewards that are not controlled by the leader, and the degree of spatial distance between supervisors and subordinates (Podsakoff, Mackenzie, & Bommer, 1996b). The perspective of leader characteristic was considered the key component in enhancing the level OCB in the working environment. Leadership styles such as transformational leadership influenced the level of engagement of OCB among the subordinates (Wang, Law, Hackett, Wang, & Chen, 2005; Mackenzie, Podsakoff, & Rich, 2001). Other influential leadership styles that predicted the presence of OCB in the workplace were transactional leadership (Podsakoff, Mackenzie, Moorman, & Fetter, 1990), Leader-Member Exchange (Settoon, Bennett, & Liden, 1996), and servant leadership (Bobbio, van Dierendonck, & Manganelli, 2012).

A great number of published literature indicated that OCB had a positive influence on both individual and organizational outcomes. In individual outcomes, a high level of engagement of OCB enhanced job satisfaction among the workforce (Munyon, Hochwarter, Perrewe, & Ferris, 2010). OCB had also been empirically demonstrated to influence organizational outcomes such as enhancing organizational performance (Nielsen, Hrivnak, & Shaw, 2009; Mallick, Pradhan, Tewari, & Jena, 2014), improving organizational effectiveness (Podsakoff, Ahearne, & Mackenzie, 1997), and service quality (Hui, Lam, & Schaubroeck, 2001). Another important positive effect of OCB on organizational outcomes was the negative relationship between OCB and turnover intention. Chen, Hui, and Sego (1998) found that a high level of engagement of OCB among employees in a workplace lowered the employees' intention to leave. Recent empirical evidences by Paille and Grima (2011), and Lam, Loi, Chan, and Liu (2016) provided support on this finding.

3. Theoretical Framework and Hypothesis

3.1 Servant Leadership (SL) and Dysfunctional Turnover

Past and current researches in the area of voluntary turnover and its antecedents determined that one of the main factors that influenced employees' turnover behavior was the aspect of leadership (Waldman, Carter, & Hom, 2015). It was further proposed that the quality of relationship between a leader and his followers impacted the followers' intention to leave (Kim, Lee, & Carlson, 2010). Nonis, Sager, and Kumar (1996) found that employees were more likely to decide to leave an organization if they were dissatisfied with their immediate supervisors while Dicks and Ferrin (2002) concluded that employees that trusted their leaders showed a higher degree of job satisfaction which led to a lower level of turnover intention.

Transformational leadership is amongst one of the most employee-oriented based leadership styles (Jaramillo et al., 2009a). Multiple studies have indicated that transformational leadership reduced employees' intention to leave an organization. Recent studies conducted by academic scholars such as El Badawy and Bassiouny (2014), Tse, Huang, and Lam (2013), and Wells and Peachey (2011) who conducted their study in a United States sports industry provided the necessary empirical support for the above conclusion. These studies showed that employee-oriented types of leadership such as transformational leadership influenced employees' exit intentions.

Jaramillo et al. (2009a) argued that another type of employee-oriented leadership, SL was a better construct in minimizing employees' intention to exit. Even though both SL and transformational leadership focused on the employees' well-being, there was a difference between SL and transformational leadership in the form of desired outcomes. SL focuses on employees' well-being in order for the followers to achieve personal objectives such as professional growth while transformational leadership focuses on the employees' well-being in order to motivate them to achieve the organization's objectives (Smith, Montagno, & Kuzmenko, 2004). This important characteristic of SL qualified this leadership style as representing the highest management's commitment to employee. According to Brashear, Bellenger, Boles, and Barksdale (2006), managers that took the role of a mentor with the focus on ensuring subordinates' professional growth will reduce the level of intention to leave among these employees. Jaramillo and his colleagues (2009a) through their findings, confirmed the belief that SL had a positive influence on the level of employee's intention to leave. Liden, Wayne, Liao, and Meuser (2014) provided an empirical study that indicated the direct link between SL and turnover intention which provided support to the earlier work of Jaramillo et al. (2009a)

There are limited studies that focus on the dysfunctional turnover phenomenon. Studies that were available provided an indirect relationship between this type of turnover and leadership. Nyberg (2010) empirically demonstrated that both pay growth and promotion rate affected to a greater degree the negative relationship between high performers and their turnover rate compared to mediocre and low performers. This finding lent support to the argument that high performers will thrive in a supportive working environment that provides career advancement, and SL which is built on the foundation of focusing on the followers' professional growth and development (Smith, Montagno, & Kuzmenko, 2004) will be able to offer this kind of working environment. Drawing from this argument and earlier findings on the relationship between SL and turnover cognitive, this researcher predicts that:

H1: There is a negative relationship between servant leadership and dysfunctional turnover.

3.2 Servant Leadership and Organization Citizenship Behavior

Various studies indicated that leadership styles influenced the level of employees' OCB engagement in a workplace. Omar, Zainal, Omar, and Khairuddin (2009) discovered that the existence of OCB in a working environment was influenced by leadership behaviour. These researchers concluded that transformational leadership was significantly positive correlated to the level of OCB engagement among employees in a workplace with sample data collected from a population derived from multinational manufacturing firms in Malaysia. Similar findings by Wang, Law, Hackett, Wang, and Chen (2005), and Mackenzie, Podsakoff, and Rich (2001) reinforced the validity of the results of Omar et al. (2009).

Hu and Liden (2011) in their empirical study with a China sample, found a significant positive correlation with a value of .59 between SL and OCB. Jaramillo, Grisaffe, Chonko, and Roberts (2009b) with their sample derived from salesforce in US reported that SL had a positive correlation with OCB with a value of .24 while Neuber, Kacmar, Carlson, Chonko, and Roberts (2008) with the participants from various industries in US, found that SL was correlated with OCB elements of helping, and creative behavior with a value of .24. These findings provided empirical evidence that SL is a potential cause of OCB. In a more recent development, Bakar and McCann (2016) concluded that SL enhanced the level of OCB in the workplace as their finding demonstrated that SL had a positive relationship with OCB which was mediated by leader-member dyadic communication style. With these findings, this researcher expects that:

H2: There is a positive relationship between servant leadership and OCB

3.3 Organizational Citizenship Behavior and Dysfunctional Turnover

According to Paille and Grima (2011), one of the earliest studies of the effects of organizational citizenship behavior on employees' intention to leave the organization was conducted by Chen, Hui, and Sego (1998) whose findings showed that there was a negative relationship between these two dimensions. This relationship can be explained by examining the core component of organization citizenship behavior which is discretionary behavior. When employees are dissatisfied with the organization but due to various reasons, such as difficulty in finding another position deterring them from leaving the organization, these employees will reduce their OCB as it is less of a risk compared to reducing the level of their work performance (Chen, Hui, & Sego, 1998). Since OCB is not an official duty or responsibility, the reduction in the level of OCB will not affect these employees' performance in the eyes of the managers. Hence, if any of the employees exhibit symptoms of withdrawn OCB, it may be that these employees are unhappy and are thinking of leaving the organization (Paille & Grima, 2011).

In 2007, Coyne and Ong conducted a research study on the relationship between OCB and intention to leave across culture. With the data collected from samples that were derived from the manufacturing industry of three countries namely Malaysia, Germany, and England, these researchers found that OCB had a significant negative relationship with intention to leave among the employees in these three countries. In a more recent study on the relationship between OCB and the turnover phenomenon, Paille and Grima (2011) concluded that OCB was able to predict the intention to leave among employees in the business industry in France. These studies provided evidence that over a 20 years period, OCB continued to be a strong predictor of intention to leave among employees. This reinforced the argument that OCB has a strong and consistent negative relationship with this turnover cognition. Intention to leave was recognized as the best predictor of actual turnover compared to other predictors (Griffeth, Hom, & Gaertner, 2000; Allen & Griffeth, 2001). Fugate, Prussia, and Kinichi (2012) reiterated this conclusion as these authors provided empirical evidence that intention to leave subsequently led to turnover among the employees. Thus, this provides support to the argument that OCB reduces turnover rate in an organization.

The link between OCB and performance-turnover can be indirectly determined as the studies on the effects of OCB in dysfunctional turnover phenomenon are very limited. According to Lee, Kim, and Kim (2013), a working environment that is infused with the element of OCB increased job satisfaction among employees while Nyberg (2010) found that job satisfaction had a negative relationship with performance-turnover. These findings support the argument that employees' engagement in OCB in a workplace will reduce the rate of dysfunctional turnover in an organization. Thus, based on this argument and various findings reporting the negative relationship between OCB and intention to leave, this researcher hypothesizes that:

H3: There is a negative relationship between OCB and Dysfunctional Turnover.

3.4 The Mediating Role of Organizational Citizenship Behavior

Though there are limited studies with OCB as a mediator variable in the research framework, the existing published works showed that OCB did play a role in mediating the relationship between a predictor variable and the criterion variable of intention to leave. Pare and Treamblay (2007) with the sample of 394 respondents from the IT industry located in Quebec concluded that OCB mediated the relationship between high-involvement HR practices and employee intention to leave. Pare and his colleague proposed that when an employee had the intention to leave, he will reduce his level of engagement of OCB in the workplace. Meanwhile, Paille (2013) with the sample of 651 respondents derived from the alumni list of a Canadian university found that perceived job alternatives were positively correlated with intention to search. This positive relationship was mediated by OCB.

In their recent study, Lau, McLean, Lien, and Hsu (2016) conceptualized a research model with OCB mediating the relationship between affective commitment and employee exit intention. From a sample of respondents drawn from various industries located in Malaysia, Lau and her colleagues found that self-rating OCB partially mediated the relationship of the predictor of the study which was the construct of affective commitment and the criterion which was the intention to leave. Meanwhile, Lam, Loi, Chan, and Liu (2016) empirically demonstrated that OCB is related to leadership style and employees' intention to exit an organization. These academic authors concluded that ethical leadership had a negative relationship with exit intention which was mediated by OCB in this relationship. SL scholars such as van Dierendonck (2011) through his review of SL academic researches and studies stated that SL has all the characteristics of an ethical leadership. Hence, this showed that SL will affect employees' turnover intention and its influence on these employees' attitudinals will be mediated by employees' OCB. The result of the studies conducted by Pare and Treamblay (2007), Paille (2013), Lau et al. (2016), and Lam et al. (2016) supported the conclusion that OCB is valid as a mediator variable and also has a strong relationship with intention to leave.

Furthermore, according to Baron and Kenny (1986), for an element to be considered as a mediating variable, it must fulfill the requirement of a strong relation with both the predictor and the criterion of the study. From the review of the relationship among OCB, SL, and intention to leave, it is established without doubt that OCB is significantly related to both SL (van Dierendonck & Nuijten, 2011; Bakar & McCann, 2016), and intention to leave (Paille & Grima, 2011; McClean, Burris, & Detert, 2013). Based on the literature reviews and arguments, this researcher predicts that:

H4: OCB mediates the relationship between servant leadership and dysfunctional turnover

Therefore, the proposed conceptual framework is shown in figure 1.0

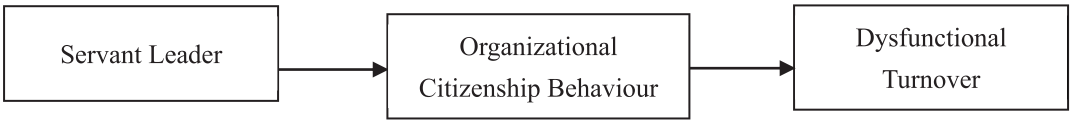

Figure 1. the proposed conceptual framework

4. Implications

The main aim of this study is to provide a better understanding on the turnover behavior of high performers in an organizational setting. Thus, the finding of this study will be able to enhance the body of knowledge from both the perspective of a managerial and academic domain.

4.1 Managerial implications.

i. Reduce the turnover rate among the high performers of an organization which will improve organizational effectiveness.

ii. Improve the engagement level of OCB in the workplace which will create a more conducive working environment.

iii. Provide direction in allocating organizational resources for human resource's strategies.

4.2 Academic implication

i. Increase the number of published academic research paper on dysfunctional turnover which will increase the understanding on the turnover phenomenon.

ii. Serve as a foundation for future dysfunctional turnover study in the area of leadership and employees' behavior in the working environment.

5. Conclusion

Dalton et al. published their seminal paper in 1982 in which these authors identified two groups of employee turnover in an organization which were labeled dysfunctional turnover and functional turnover. Dysfunctional turnover referred to the exit of high performance and hard-to-replace employees while functional turnover referred to the exit of poor performers (Hom, Mitchell, Lee, & Griffeth, 2012).

Though the importance of this concept from both an academic and managerial perspective was well recognized (Mobley, 1982b; Hom & Griffeth, 1995), there was a lack of study conducted on this phenomenon. Mobley (1982a) argued that it is essential that future researches on turnover differentiate between high quality leavers and poor-quality leavers to have a better understanding of the turnover phenomenon. Yet thirty years later, in 2013, Heavey, Holwerda, and Hausknecht conducted a meta-analytic review on the subject of employee turnover causes and consequences, concluded that this argument was largely unheeded. Most of their studies that they reviewed and also current turnover literatures, the turnover rates theoretically included all form of leavers including high, marginal, and poor performers (Furtado, Batista, & Silva, 2011; Maertz & Kmitta, 2012; Hancock, Allen, Bosco, McDaniel, & Pierce, 2011; Waldman, Carter, & Hom, 2015; Babalola, Stouten, & Euwema, 2016). There was not much attention given to a specific group of employees. Hence, this proposed conceptual framework will have rectified this shortcoming.

Another important gap of knowledge was that there was very limited published academic paper that focused on the influence of leadership on the turnover of high performers. The study of leadership influences on turnover are well researched (Jaramillo et al., 2009b; Gul, Ahmad, Rehman, Shabir, & Razzaq, 2012; Waldman, Carter, & Hom, 2015), but none of these studies focus on a specific group of employees. This framework with its focus on SL influence on high performers' turnover behavior will contribute to the body of knowledge in the aspect of turnover phenomenon. Thus, it is recommended that further empirical study be undertaken to validate this conceptual framework which will prove to be valuable in adding to the body of knowledge at this critical point of time.

6. Limitations

The main limitation of this study is the difficulty in gaining access to a large pool of respondents. According to Ramayah, Cheah, Chuah, Ting, and Memon (2018), in organizational studies, the actual respondents are difficult to get and have access to. Oppong (2013) stated that if a sample size is not adequate, it might cause sampling error. Thus, this limitation needs to be address to ensure the creditability of this study's undertakings and findings (Oppong, 2013).

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Impacting Factors on the Employees' Performance during Acquisitions: A Study on KASB Bank into Bank Islami Pakistan Ltd

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Abstract

Employee performance has a huge effect on success of modern organization. Employees are considered as backbone for any organization that cannot be emulated from the competition, therefore employee performance should be considered major valuable resource. This study has focused on the banking sector where employees' performance having huge impact on organization. For this purpose, we chose two banks from Pakistan for acquisition, one is Bank Islami Pakistan Ltd and second KASB Bank were chosen, their acquisition took place on 8th of May 2015. In this study, the employees' performance was examined on the bases of few factors like an organizational cultural change, communication between the acquirer and target bank, organizational change managed by the acquirer firm, and job satisfaction of both the acquirer and the target banks' employees. We collected the Primary data by using the questionnaire methodology where we collected data from 200 respondents of both banks representing the overall population of the acquirer bank and target bank. The findings of this study were interpreted with the help of Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM), which were used to find the impact of independent variables; cultural change, communication gap, organizational change and job satisfaction on dependent variable(s) which is employees' performance. The outcome of our questionnaires data shows that proper management of independent variables can decrease the level of anxiety amongst employees, which affect the industry making a successful acquisition.

Keywords: organizational culture, banking, organizational change, job satisfaction

1. Introduction

Merger is largely defined as an amalgamation of two companies where, all the stock, assets and liabilities are transferred from one company to the other via payment either through cash or shares or in many cases both (Mariappan, 2003).Takeover or acquisition is mainly the purchasing of a controlling interest in the capital share of other company. Acquisition is also affected by the individual who hold the major interest in the management of the company(Mariappan, 2003). Both merger and acquisition are strategically important for the organization's achievement of growth, cost reduction, asset acquisition, expansion and market expanding which results in the profitability of any sector(Martynova & Renneboog, 2006). In contemporary era we have witnessed many practical examples of acquisition in the industry of banking. In addition, with financial issues certain other issues are kept in view during this phase. Whenever a merger strategy is applied, one of the company dilutes itself into the other firm, nevertheless it's just not the transformation of liabilities and assets but it also affects and influence lives and future of employees attached with it (Kahr, 2011). Although the merger has multipronged motives – psychological, practical or opportunist – the main aim behind acquisition and merger is to get synergy or usually defined "two plus two equals five" effect. Nevertheless, many organizations have experienced at a substantial expense that the potential synergism does not guarantee that the amalgamation would lead to that potential. Empirical researches in their studies have illustrated that only half of the acquisitions and merger could practically meet up the expected financial initials (Fairburn & Geroski, 1989). Employees' performance has significant impact on the success of any organization. It is considered as the most important factor which gives the direct contact between employees and the customers. As an asset that cannot be imitated by the competition, companies put great emphasis into achieving high level of employee performance to gain a resource advantage (Anitha, 2014).The recent growing trend has witnessed that the amalgamation is carried out to achieve benefits, thus enhancing profitability and competency. This strategy is also being practiced and adopted in Pakistan. Since 1998, a large number of acquisitions have reportedly taken place in Pakistan, where more than 50% have been carried out only in financial domain (Tauseef & Nishat, 2014).

This study has been focused on the variables which are the major cause for decreasing the employees' performance during the acquisitions phase leading towards reduced organizational performance, includes the culture of acquired and target firm, change management process, communication gap leading towards 'us and them syndrome', and job satisfaction associated with number of sub variables such as ambiguity of job role, job security, reward and appraisal system, and empowerment. Factors with respect to human resources in mergers and acquisitions acknowledged that there are some common mergers famous include uncertainty, fears related to job stress, job insecurity, job role changes, remuneration changes, changes in job empowerment. Researchers recommend that these stressors must be given extreme care before, during, and after the acquisition phase (Schweiger & Ivancevich, 1985). Failure of cultures of merged companies locally as well as internationally may make consolidation of culture strategy difficult. As the process of acquisition of two companies starts, teams need to be built from both acquirer firm and target firms to bridge communication among the acquired and acquired firms. Teams need to set repeated meetings with the middle managers and junior level staff so that it can make an ease to complete the acquisition phase (Mariappan, 2003).

The purpose of this research is to understand how management and employees of organization deals with the fears related with the organizational change due to the acquisitions of two different organizations, how cross cultures are managed, how to cope with communication gap to avoid ambiguity, and finally what role an organization play to satisfy the employees. The key objective of this research is presented in bullets form below.

- To find the relation between organizational changes caused due to acquisitions on employees' performance.
- To find the association between cross culture and employees' performance.
- To find the impact of communication on employees' performance.
- To find the influence of job satisfaction on employees' performance.

Complexity theory has been emerged in the field of natural sciences, particularly in the field of the evolutionary biology, supporting the evolution theory of Darwin. Further, the complexity theory has also raised interest in the other fields as well such as, strategic management, computational sciences and in the studies of organizations. In organizational studies, it views organization as the "complex adaptive systems" (CAS), which is adapted by the environment. This CAS have several important characteristics including factors related to cultural change, changes in the environment/organization, adoptability to effectively communicate and employees' job satisfaction (Anderson, 1999; Mitleton-Kelly, 2003). In this regard, the synergy of the firm's resources and the organizational and individual knowledge promotes a research orientation on the issues related to the human factors in terms of employees' performance and their post-acquisition performance.

2. Research Background

There are various classifications of terms like Merger, takeover, amalgamation and acquisition provided by different authors. Most of the time these terminologies are used synonymously but few writers make differentiation among them (Weston, Chung, & Hoag, 1990). The factions supporting the merger strategy and its practical application term it to be ethical as it widely benefits the society. Such an argument try to contend that merger activity is efficient and beneficial for shareholders of both the target firm and the acquiring (Chase, Burns, & Claypool, 1997). Both Acquisition and Merger are used by the various organizations to meet the dynamic issues of the business environment. Such an approach is argued to be highly identical form of the corporate development (Abbas, Hunjra, Azam, Ijaz, & Zahid, 2014). Acquisition and merger are considered to a form to corporate finance and corporate strategy which deals with the amalgamation of various companies and entities, which helps in the rapid growth of any enterprise in its sector and origin location or in a novel sector or location without formation of subsidiary or usage of Joint Venture (Gaughan, 2010).

Orre and Malmstrom in their paper – "How a merger in the operational combination stage affects employee motivation" – They examined and observed the behavior of employee's motivational level taking the case of two private firms from Sweden which was in the phase of merger leading towards the merger of combination of operations. Also, with the help of quantitative study they found the relation between employees' motivation and satisfaction with respect to the approaches of merger variables including, work role conflict, cross culture issues and social obligations. In the contemporary era, the firms and companies utilize the surplus funds to acquire other firms and companies. Such firms can have identical business lines to enhance product range or for the increment of their shares. Acquisition is a sort of situation, where a company buys any other company to enhance the efficiency through any central proficiency of the acquired company (Orre & Malmström, 2010). The financial implications of merger are highly essential and at the other hand the people associated with the issue of merger are also equally important. The employees of the obtained firm become very much careful and also are aggravated by the unsteadiness and hesitation caused by the commencement of the merger (Lin & Wei, 2006).

Tensions, stress and resistances arises in employees when they are forced to leave their previous organizational culture and are forced to adopt culture of the acquirer firm which has acquired the target firm after the phase of acquisition (Elsass & Veiga, 1994). If Employees dislike and resist to culture change may result in employees become mismatch and hectic to the management and other organization members creating an inter-group clash between the employees and management of both the acquirer and target firm. This type of culture can lead towards a major obstacle to successful merger because of this inter-group clash. Employees resistant to culture change could affect their working approach and their commitment toward management and thus generating a crash culture. Therefore, such a culture of crash could become a major hurdle in the way if effective merger through impairing of inter-group clash (Buono & Bowditch, 1989).

The prevailing definitions of culture mainly deals and focus on the shared belief of the members of an organization. Though most of the time it is believed that the organizations have a monolithic culture but in many case the firms has many patterns which affect behavioral pattern among the workforce in organization (Sathe, 1985). The multiple subcultures are divided as functional, occupational, geographical or product line and such subculture might be orthogonal, enhancing or can even counter one another (Sathe, 1985). According to many authors culture of an organization can be taken as independent variable during acquisitions phase to differentiate culture between organizational practices and managerial style (Bhagat & McQuaid, 1982). Although peter and waterman in their research suggest that fit between culture and strategy is an important element in organizational effectiveness. Culture is also been utilized to illustrate organizational success stories. Even many researchers suggest in their researches that fit between strategy and culture is an important component in the effective functionality of the organization. For the study of merger, the culture has been used as a variable which is presumed to affect the application of the strategic decision or as an element of the strategy. Many of the researches and studies have tried to locate the elements that influence the accomplishment of mergers as the strategy for alternative to notify essentiality for many elusive problems (Marks, 1982).

However, few of earlier studies have suggested that the managements should not communicate with the employees realistically during the mergers and acquisitions. Such recommendations have been suggested owing to effect of such communication which can instigate inter-competition or may force employees to leave the organization than adopting the new planned changes (Ivancevich, Schweiger, & Power, 1987). Somehow, an identical research in different area has generated empirical support that communication is a vital part of acquisitions and mergers and it also provided theoretical justification for the benefits of communication. It's necessary that the company's vision is plainly communicated to the newly formed organization and also the future prospects and plans must be clearly communicated. Adoption of change is essential as it has a reasonable benefit over their competition (Want, 2003).

In recent past, the merger process has developed to be a key strategic option for organizations. Even the business leaders perceive that mergers have capability to stimulate the profitability of organizations and contribute in business reinstatement (Budhwar, Varma, & Katou, 2009). It has been an established fact that merger helps the organization and equips it with capable tools to accomplish and achieve competitive advantage. This can be only true if the merger process is in accordance with the plan (Tanure, Cançado, Duarte, & Mulder, 2009).Job satisfaction and organizational assurance are widely known forecasters of income goals and absenteeism of the employees (Mor Barak, Nissly, & Levin, 2001). The Job satisfaction learning endures to come out and the result are frequently valued for financial and humanistic benefits (Worrell, 2004). Uncertainty and ambiguity in any organization can be defined as the appropriateness of information accessible to the members of organization the situation of unambiguous are considered by understanding and having knowledge of the causal relation between the action and their possible outcomes. There are four categories of ambiguities which surface during mergers. The external conditions instigate Environmental ambiguity, the uncertainties about official linkage and prearranged relationships, Cultural ambiguity is related to the informal relationship and the undefined patterns of interaction and role ambiguity relating to concerns about the effect of merger on individuals with respect to their work relations and roles. Uncertainty holds a fundamental place in the decision making as assumptions are needed to be sketched for the future which remains uncertain.

The outcome of this research will be helpful for the HR department of Bank Islami to tackle with the difficulties which are facing after the merger phase. Due to limited time period and lack of resources this research has been specified to only one merger between KASB Bank and Bank Islami as well as this research has been limited to only HR factor it can be diversified to wealth effects and market expansion also. Research can be prolonged by selecting more organizations as well as selecting any other sector.

The research can be useful for the organization which are in process of merger phase and data will be helpful to them to find out strategies that can be helpful to avoid complication of culture difference issues, communication gap issues, how change can be managed, and what type of techniques should be used to satisfy the employees of bidder and acquirer firm. It can also be helpful for the HR personals, policy makers and students who want to carry out further research on this topic.

3. Research Methodology

This study was quantitative, and survey based. Population for the study was employees of the target Bank (KASB) and acquirer bank (Bank Islami). Different branches in Karachi of both banks (KASB & Bank Islami) were selected to complete the research work in which survey approach was used by the researcher to obtain data from the employees of both the Banks. This study was based on the organizational study, so convenience sampling was selected to collect data from participants in whom 200 employees were selected out of which 165 respondents completed the survey. Mohammad and fellows (Mohammad, Quoquab Habib, & Zakaria, 2010) in their paper explains that convenience sampling is best alternative rather than statistically-based probability in organizational based study as it helps for the hypothetical based generalization of the data. Collected data was analyzed with help of Structural equation model and conformity factor analysis to find the impact of independent variable on the dependent variables with help of AMOS in SPSS.

4. Results and Discussions

4.1 Reliability

The internal reliability / consistency between different variables were computed through the Cranach's alpha (see Table 1). Nunnally (1967) suggested that minimum alpha of 0.6 meets your requirements for research. As Cranach's alpha in this data which has been gathered with the help of questionnaire is .850 for 18 items of 5 variables, which is acceptable as well as reliable for further findings. Here valid population is 165 as few respondents missed some questions which they do not want to respond, or it may be involuntarily left blank by them while attempting questionnaire.

Table 1. Reliability Statistics

Cronbach's Alpha	No of Items
.850	18

4.2 Confirmatory Factor Analysis

Confirmatory Factor Analysis in AMOS in SPSS has been applied to interpret the significance of model here data interprets that CMIN/DF is 1.329 which is between 1 to 3 and GFI is 0.900 and according to AMOS model .90 or above it is acceptable while CFI is .927 and statistically above 0.90 is significant while RMSE should be less than 0.08 and here data interprets that it is 0.45 which means that model is significant and it can interpret the data (see Table 2).

Table 2. CFA statistics

Model	Term	Values
Default Model	CMIN/DF	1.329
Default Model	GFI	.900
Default Model	CFI	.927
Default Model	RMSEA	.045

4.3 Structural Equation Model

Structural equation model in AMOS interprets the impact of independent variable on dependent variable and that can be interpreted with the results of P value in Table 3.

Table 3. Regression Weights: (Group number 1 - Default model)

	Estimate	S.E	C.R.	P
MEQ--- CLQ	-.182	.920	-.198	
MEQ--- COMQ	-.613	.905	-.677	.498
MEQ--- CMQ	.730	.681	1.072	.284
MEQ--- SFQ	1.135	.783	1.450	.147

Hypothesis 1:

H1a: There is a relationship between cross Culture and employees' performance.

H1o: There is no relationship between cross Culture and employees' performance.

The Table 3 shows the P value for organizational culture and employees' performance is 0.843 which is greater than 0.05 so it means that researcher has failed to reject null hypothesis so there is no impact of organization culture on employees' performance.

Hypothesis 2:

H2a: There is an association between organization change process and employees' performance.

H2o: There is no association between organization change process and employees' performance.

P value for organizational change process and employees' performance is 0.284 which is greater than 0.05 so it means that researcher has failed to reject null hypothesis so there is no impact of organization change process on employees' performance.

Hypothesis 3:

H3a: There is an impact of job satisfaction on employees' performance.

H3o: There is no impact of job satisfaction on employees' performance.

In Table 3, P value for job satisfaction and employees' performance is 0.284 which is greater than 0.05 so it means that researcher has failed to reject null hypothesis so there is no impact of organization culture on employees' performance.

Hypothesis 4:

H4a: There is a relation between communication gap and employees' performance.

H4o: There is no relation between communication gap and employees' performance.

P value for organizational change process and employees' performance in SEM is 0.284 which is greater than 0.05 so it means that researcher has failed to reject null hypothesis so there is no impact of organization change process on employees' performance.

5. Conclusion

Pakistani banking industry have experienced many mergers and acquisitions in past ten years and most of these mergers have caused due to capital requirements, extension in network, and closing of the foreign banks operations in Pakistan. This study selected for two such banks in which KASB bank was imposed moratorium by state bank of Pakistan on cause of not able to meet capital requirements while second was the Bank Islami Pakistan Ltd, a growing Islamic Bank. This study focused on the acquisition impact on employees' performance in terms of organizational cultural change, Communication issues between acquirer and target employees, Change Management by the acquired firm, and satisfaction level amongst the employees; the employees of acquirer as well as targeted firm. The results justify that in process of acquisition if the acquirer firm does not pay attention to these variables than it cannot lead towards a successful merger and also can lead towards failure and closure of the business. Acquisition between the KASB bank and Bank Islami has succeeded as the acquirer firm gave proper attention to these variables to overcome the employees' stress and ultimately their performance. Although the main cause can be the rumors in the market regarding the closure of KASB bank leading towards employees' job insecurity, ultimately announcement regarding acquisitions was a relief for the employees of KASB bank that acquirer will acquire assets as well as their employees while only top management will be changed.

5.1 Recommendations

The process of bank to merge or acquire with other banks involves huge amount of capital, careful analysis of assets as well as the employees' perceptive of own and target banks to make the merger or acquisition a smooth and successful process. Findings of this study recommend that management must pay attention to the following areas while making merger and acquisitions decision.

- Acquirer bank need to have proper communication by setting up committees to ensure the effective execution of employee's grievances and rumors during and after the phase of acquisition.
- Management need to start trainings and orientation programs to handle change which will also be helpful to reduce the cross-culture differences.
- Human Resources Managers need to pay attention towards the job satisfaction of employees with respect to job role ambiguity, empowerment issues and reward and compensation system.

This study in conclusion recommends that future studies in acquisitions and mergers should expand towards other industries like telecommunication. Manufacturing and other development finance institutions such as insurance companies which have experienced mergers and acquisitions in Pakistan. Meanwhile a comparative analysis can also be done be taking a merger and acquisition in Banking sector of Pakistan by comparing the results of a merger and acquisitions.

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Analysis of the Status of Women Directors: A Study on the Listed Financial Institutions of Bangladesh

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Abstract

This paper investigates the status of women directors of Bangladesh using all the listed financial institutions of this country. Particularly, the paper considers three issues: the number of women working as directors, their qualification; and their recruitment process. Using a mixed method, the overall findings of the study reveals a very dissatisfactory status of the women in the top position in the Financial Institutions of Bangladesh. It also indicated that, though the number of qualified women is increasing but the rate of growth is slow like many other countries. The patriarchal society and the socio-cultural factors are still dominating the recruitment process of women as a director. Though the overall findings show a sluggish growth of the status of women at the top position, the findings of this study indicate the gap in understanding of the policy makers and also among women, which will help in developing effective policies for ensuring gender diversity at the board level.

Keywords: women directors, financial institutions, nomination, leadership

1. Introduction

1.1 Introduction

The increasing number of research on gender diversity at the board level certainly indicates its importance in ensuring good governance. However, the literature review suggests that both developed and developing countries are still struggling to ensure a satisfactory result on gender diversity at the board level. Whilst, board diversity is considered as an integral part of competitive decision making process, a significant number of studies (e.g. Reguera-Alvarado et. al., 2017; Conyon and He, 2017; Moreno-Gómez et. al., 2017; Sharma, 2014; Francoeur et. al., 2008) strongly emphasized on gender diversity to be very specific. For instance, Mallin (2004) stated that “in most of the cases the diversity is defined broadly in terms of gender or nationality”; and another group of studies (e.g. Aribi et. al., 2018; Gallego and Gutierrez, 2018; Lee et. al., 2017; Terjesen et. al., 2015; Dezső and Ross, 2012) stated with empirical evidences that gender diversity is crucial for companies to attain competitive advantage.

For example, Terjesen et. al. (2015) found that female directors enhance firm’s performance. With the help of Tobin’s Q method, they found that the presence of women on at board is positively correlated with firm performance. Similarly, Dezső and Ross (2012) identified that, firms with women portrayal can attain high-rank performance since their empirical result is significant. They think that firms should incorporate women at the board level because board with women can achieve better performance than board without women; as women are perceived by the shareholders to be more ethical than men.

However, one of the major reasons behind the sluggish growth of gender diversity at the board level around the world might be lies with the mixed evidences of the impact of gender diversity on board performance. For instance, some studies (e.g. Chen et. al., 2016; Pletzer et. al., 2015; Hili and Affes, 2012; Adams and Ferreira, 2009) found gender, as in, women in the board or leadership role is insignificant for companies’ success. A very recent research of Lukviarman and Johan (2018) reviewed the literature of past 15 years, and found that women on board have a negative impact on firm performance. Unfortunately, similar result echoed in some other studies, like Zeng, (2018) and Bokhari and Hashmi (2016). Zeng (2018) found in his empirical study based in China that, there is no notable impact of gender diversity on performance because the characteristics of female directors have no impact on the level of the firm's performance. A similar result had been found in the qualitative study of Bokhari and Hashmi (2016) based on Asian countries. The scholars assumed that the conventional perception about women's capability as leader might have influenced behind this result. Whilst the above mentioned studies claim negative impact, some other studies (Fujianti, 2018; Williams, 2003; Harrigan, 1981) rather preferred to be inconclusive about the impact based on their findings. Because they found that women directors have less concentration on firm's economic needs than their male counterparts. And for this, outside women directors are more preferable in the big firms than inside directors. These empirical studies are based in both developed and developing countries which makes these results more acceptable. Although they can't exactly find any relationship between gender diversity and firm's performance because of their limitations, they emphasized the significance of women on the board of a company.

The findings of most of these studies are not generalizable for several reasons. For instance, the studies which indicated a negative impact of having women on board are limited on their sample size. For instance, the study of Fujianti (2018) used 40 companies as sample and indicated in their paper it as one of their limitations. Moreover, most of the literature is based on developed (e.g. Europe, US, Ireland, Kenya) countries. (e.g Mandala et. al., 2018; Owen and Temesvary, 2018; Ward and Forker, 2015; Cabo et. al., 2012). Since, each country differs with socio-cultural aspect which has significant influence over the decision making approach, the available findings cannot be generalized for all. The studies (e.g. Aribi et. al., 2018, Gallego and Gutierrez, 2018, Handley et. al., 2018; Hasan et. al., 2018; Cheng et. al., 2017; Dezső and Ross, 2012; Deloitte, 2011) which advocated for the presence of women at the board level, emphasized on the fact that to make a positive impact on firm performance, women need to meet up certain qualification like any other competent board leaders. For instance, Handa (2018) highlighted on the number of women, Solimene et. al. (2017) emphasized on the qualification and some demographic features, Some recent studies repetitively stated that having any woman is not only detrimental for the company, they might reestablish the old stigma on women that they are less competent as leaders compare to men. Hence, they also strongly opined that women's appointment on board should be based on fair criteria i.e. their merit and competence.

Having women at the top position is additionally challenging for many of the developing countries like Bangladesh, where traditionally, the society is nurturing the Patriarchal culture. Hence, it is good to see that the interest is increasing on the gender diversity issues in these kind of countries (e.g. Hasan et. al., 2018; Abobakr and Elgiziry, 2017; Shetu and Ferdous, 2017; Badrul et. al., 2015)). One of the extensive studies on women directors is the study of Deloitte (2011). This study found that, the presence of women in the top position of the public firms of Asian countries is not more than 10% were in other countries (e.g. US, UK, EU, Canada, Australia) the women participation in the top position of the public firms is around 15% only. It is clearly visible that, the rate of participation of women is significantly low; even lower than developed countries. Bangladesh, as a case of study is interesting. Because, traditionally patriarchal system dominates the socio-cultural factors, and the corporate sector is dominated by family owned companies. These two combinations are certainly a big challenge for women to break the glass ceiling and aspire to leadership position. According to the World Bank (2018), the GDP Growth rate of Bangladesh will rise from 6.5% to 7% in the year 2019, for which ensuring a healthy private sector is considered as fundamental. At this point, not including women in the decision making process will be expensive for the country, as a good number of studies (like, Mandala et. al., 2018; Owen and Temesvary, 2018; Abobakr and Elgiziry, 2017; Ward and Forker, 2015; Cabo et. al., 2012) feared that exclusion of women from the decision making process means excluding half of the customers' mind, and excluding the potential of half of the population of a country. Realizing the necessity of gender diversity at different level of the economy, women empowerment has been considered as one of the important agendas by the Government of Bangladesh for almost a decade. These agendas have emphasized on women's right on education and facilitated their entrepreneurial skill. Several awareness programs took place against stereotypes, and participation of at least one (1) percent of women on at the board have been made mandatory by the corporate governance regulations of the Bangladesh Securities and Exchange Commission.

As a result, the official statistics (e.g. the Bangladesh Bureau of Statistics, UCEP Bangladesh and Diakonia Bangladesh, 2017) revealed that female students have outnumbered males in different academic fields, which naturally develops an expectation that a good number of women should be found in professional fields too. However, among the few studies on Bangladesh, one of the recent studies by Shetu and Ferdous (2017) identified that women in Bangladesh are struggling to take their career to the top; the typical barriers along with the most common one "family responsibilities" there are other obstacles (e.g. discrimination in promotion and payment, lack of role model, lack of determination among women to overcome the barriers in raising up career and so on) which have been found as the reasons behind the lack of women at the top position in the corporate sector of Bangladesh. The study also claimed that although the number of women increased at the entry level, but it starts decreasing sharply as the career-path leads to the top. The stereotypical ideas over gender diversity prevails in Asian countries, as have been claimed by a number of researchers (e.g. Lukviarman and Johan, 2018; Fujianti, 2018; Zeng, 2018; Bokhari and Hashmi, 2016). One recent study found that only a small number of women (23% in top position, 15.1% in parliament and 12% in other areas), are holding the top position of the Bangladeshi corporate sector (Shetu and Ferdous, 2017). This percentage is not good enough to make a significant impact on firm performance. On top of, neither this study nor other studies on developing countries systematically analyzed the profiles of these women which is integral for any directors to make a positive impact on firm performance.

Overall, it is high time for any developing countries like Bangladesh which are aspiring to be middle income country, to consider every single potential it has to boost the economy of the country, and gender diversity is certainly one of those untapped potential which deserves much attention.

Based on the above justifications, this research aims to understand the status of women who are working at the leadership position in the listed financial institutions of Bangladesh. The main objectives of the study are,

1. To identify the number of the women directors of the listed financial institutions of Bangladesh,
2. To analyze the profile of the women directors of the listed financial institutions of Bangladesh, and
3. To analyze the recruitment process of the women directors of the listed financial institutions of Bangladesh.

This study contributes in two ways, theoretically and practically. Previous studies show the significance of gender diversity in corporate board. The participation of women directors is slowly increasing and they have a strong profile in other countries' financial institutions as well as the whole corporate sector. Although the boards of FIs of Bangladesh have included women might be due to the listing regulations, the number in proportion to the board size has not been studied systematically. Moreover, to make a positive impact on firm performance, regardless of the gender Directors must have a certain amount of qualification and experience, thus their recruitment basis needs to be scrutinized before making any conclusion on the competence of women are serving as board members. This study will fill this gap in understanding taking the case of Bangladesh as a developing c.

Furthermore, after the series serious of home grown corporate scandals (for instance, stock market failure in 1996 and 2011, Sonali bank – Hallmark loan scandal, Oriental Bank, Bismillah Group; Janata Bank and Bangladesh Bank - the Central Bank of Bangladesh) corporate governance regulators of the countries are showing interest to make policies to ensure good governance. Admitting, the findings of Aribi et. al. (2018) and Gupta and Jain (2018), that the presence of women at board increases accountability and fairness, they have made policies as mandatory for all the banks to follow to have women at board. However, as have been discussed above if the right women are there who are not hired due to their competence and then the old stigma of women's competence will be reestablished. Hence, the findings of this study are expected to help policy makers to understand the gaps (if any) in their existing policy.

1.2 Theoretical Background

The New Institutional Sociology (NIS) theory provides the theoretical background for this study. NIS theory states that, to act properly, rationally and reliably, different organizations seek legitimacy so that they can act in a similar manner (Suchman, 1995; Jepperson, 1991; Parsons, 1960). DiMaggio and Powell, (1983; 1991,) explained that to adopt legitimacy, organizations must follow some common legal and regulatory laws which can change their structure. They further stated that, these laws may come from both government and other non-governmental bodies. According to Siddiqui (2010), the corporate governance scenario of Bangladesh is consistent with the propositions[1] of the NIS theory. For example, the regulatory bodies' behaviors towards the companies regarding appointing women in top position match the NIS theory through the rational choice institutionalism and feminist institutionalism. Because, the rational choice institutionalism stated about the rational behavior of the regulatory bodies towards the firms and the feminist institutionalism talks about how gender and firm incorporate together (Nee, 2003; Brinton and Nee, 1999). To appreciate female in the workplace, positive view towards appointing female directors and family members had been shown in the laws of the important Bangladeshi corporate actors such as Bangladesh Securities and Exchange Commission (BSEC) guideline,. Since there is a law for appointing women as board members, the companies included women for

[1] The main propositions of NIS theory are normative institutionalism, rational choice institutionalism, sociological institutionalism, historical institutionalism and feminist institutionalism (Nee, 2003; Brinton and Nee, 1999).

compliance not for out of their believe on the importance of different opinion women bring to the board, or different leadership skills needed by the board. However, the desired qualifications of women for director position have not been mentioned in the policies. Moreover, the company act 1994 allows companies to include family members up to 55% of the ownership, but no specific mandatory requirements for the qualification of them. This creates the scope for companies to bring anybody to the board just for the sake of compliance. Hence, it is highly possible that the women who are working with the board have been invited for legitimacy where little priority has been given on their qualification. Hence, the NIS theoretical propositions are adopted in this study to understand the status of women and the perception of the respondents in addressing the research questions.

1.3 The Status Women on Board of Different Countries

To understand women directors' status, reviewing their number, profile and recruitment process is an important criterion. By this time a good number of studies have emerged identifying if the participation of women has increased in number and their impact on performance. For instance, in a study of Indonesia, Fujianti (2018) stated that qualified women add new dimension to the board decision and thus can add value to firms' performance. García-Meca et. al. (2014) studied multicounty & stated that bank performances of 9 different countries (Canada, France, Germany, Italy, the Netherlands, Spain, Sweden, the UK and the US) have increased due to gender diversity on corporate board.

However, from the very beginning, the researchers advocating for gender diversity at the board level have been emphasizing on some prerequisites before taking the decision to include women at the board level as a mandatory option; and qualification and competence is certainly one of them. For instance, Burke (1993) and Burgess and Tharenou (2002) strongly stated that only, those women with good characteristics and better qualification, can enhance board as well as management performances; and they rejected the idea of having women as a 'token'.

Some studies (e.g. Solimene et. al., 2017; Horváth and Spirollari, 2012; Burgess and Tharenou, 2002) used age, education, experience, marital status, number of children and role on board as women directors' profile. These studies preferred comparatively young women (e.g. age around 40 years old) to be on the board, as they were found to be comparatively enthusiastic in taking risks and creating positive influences (Horváth and Spirollari, 2012; Salim, 2011; Kang et. al., 2007; Burgess and Tharenou, 2002). While reviewing the educational profile, studies like Singh et. al. (2008), Burgess and Tharenou (2002) and Hillman et. al. (2002) found that, female directors' hold higher degrees such as, masters and PHD degree compared to their male directors. And Soleimene et. al. (2017) & Dang et.al (2014) did not measure the impact but they stated that higher education has the potential to lead a better experience for other members and expertise on board.

While marital status was found to be a significant variable for women to aspire to leadership position due to family responsibilities. It is almost common in every country that marital status and number of children adds more responsibility on women compared to their male partner. However, it was interesting to see the findings of Burgess and Tharenou, 2002, which is based on Australia, USA, Canada, UK, New Zealand and Israel. The study found that, at the board level, the number of married women and women with children is higher than women who are unmarried and do not have children. However, the findings are not surprising, as for women the age of getting married is abided by the social norm in many countries, mostly in South-Asian countries, and bearing children is abided biologically. Hence, the time when people get into the job, males can focus more on career and females need to balance the social and biological orders. This balancing takes time for to reach to the top and many gives up even before breaking the glass ceiling. Although female Chair and CEO generate benefits for companies, women in these positions are hardly found (Sahay et. al., 2017; Wang and Kelan, 2013; Linda, 2005).

Regardless of gender, the recruitment process of directors has also been studied by some studies. Like the study of Burgess and Tharenou (2000) found in general directors are appointed in their different ways such as, demographic, experiential, and organizational. Among this, the scholars preferred the demographic factor as it ensures board diversity in a meaningful way. When it comes to the question of women at top position, Some countries like Australia, France, Us and Canada preferred a quota system, as they said quota is the only way to break the stereo typed notion about women's competence scholars because previously women were not appointed on leadership position because of many qualified candidates, not realizing their importance, their unpredictable career and the negative view towards them (like Handley et. al., 2018; bdullah, 2014; Nekhili and Gatfaoui, 2013; Sweigart, 2012 Brammer et. al., 2007; Leonie, 2006; Bonn, 2004; Sheridan, 2001; Burke, 1997; Daily et. al., 1999; Panteli et. al., 1999; Elgard, 1983). However, these countries did not give any less emphasis on the level of competence of those women who deserved to be at the board. However, scholars like, Tatli et. al.

(2012), Pande and Ford (2012) are completely against this quota system, as they argued that if companies are pressurized to have a women at board through quota system, for the sake of compliance wither they will fit anybody or not so right women for the position for the sale of compliance.

Bangladesh has laws on recruiting women directors too. However, they have been very recently in acted. The BSEC guideline 2012 & 2018 stated that at least one board member should be female; and this is mandatory for all listed companies. A study by Siddiqui and Ferdous (2016) found that family business is in lead position in having women, and they stated the reason behind this is that the company act 1994 added the provision of including family members up to 55% of the ownership of companies. Furthermore, the bank company act (1991) of Bangladesh said that, "At the same time, no more than 4 [four] more members from any single family will be held in the position of the director of any banking company". This provision clearly means that there is a possibility of appointing family members in the director position. However the study revealed their fear of such pressure of legitimization of including women through quota, since in reality they found there is lack of competent women at the pipeline to be an effective board member. Unless a proper policy is implemented to encourage women leadership and raise a women to reach to the top, there is a chance of having women who will not be able to make significant or any or negative contribution to firm performance.

2. Method

2.1 Identify Subsections

This section is divided into two subsections. First subsection includes the description of respondents and participants and justification of their participations. Second and last subsection includes the sampling procedures and sample size and precision; measures and the research design.

2.2 Participant Characteristics

The participants of this research are both male and female individuals who are working in the board of directors of the sample companies given below. They are eligible for this research because the study is based on the women directors of sample companies' boards. For proper justification of the research, focus group interviews and personal interviews of both male and female respondents have been conducted.

2.3 Sampling Procedures

The target population of this study is all the financial institutions listed on the Dhaka Stock Exchange (DSE) at the end of 2017. The financial institutions have been divided into two major groups, banking institutions and non-banking financial institutions. During that period, total 100 financial institutions were listed on the DSE. The secondary source such as, annual reports of FY 2016-2017 of all financial institutions had been used to collect data. As the research is based on the secondary data, the responded are exactly the same number of the population size.

2.3.1 Sample Size, Power, and Precision

Table 1 describes the industry classes of the financial institutions of the DSE.

Table 1. Industry Classes of the Financial Institutions of the Dhaka Stock Exchange

Industry Classes			**Population**		**Sample**	
			Total Listed Financial Institutions in the Industry	% Total	Responding Companies (Sample)	% Sample
Financial Institutions	Banking Institutions	Bank	30	30%	30	30%
	Non-Banking Financial Institutions	Insurance	47	47%	47	47%
		Leasing	23	23%	23	23%

2.3.2 Measures and Covariates

The first research objective, is to identify the number of women directors, two types of data had been used which have been used in previous studies (Handa, 2018; Gupta and Jain, 2018; Cheng et. al., 2017; Deloitte, 2011; Neilsen and Huse, 2010). For this objective, the number and percentage of the board size, male and female directors had been identified. The second research objective, which is to analyze the profile of female directors, will be considered the data following the study of Sahay et. al., 2017; Solimene et. al., 2017; Singh et. al., 2008 and Burgess and Tharenou, 2002 (as have been discussed in pg 8). The profile includes into five (05) different variables such as, directors' age, education, marital status, experience and role on board. The director wise percentage, company wise percentage and age range of female directors had been identified. In order to understand the last research objective, that is to analyze the recruitment process of women directors, how they have been recruited, whether they are in family business or their profile matters had been used as data. The data for these objectives are quite similar to the data of various researches conducted previously (Handley et. al., 2018; Abdullah, 2014; Nekhili and Gatfaoui, 2013; Sweigart, 2012).

2.3.3 Research Design

This study is a mix of both qualitative and quantitative methods. All the objectives had been analyzed using both methods. Number, percentage, range had been used and an explanation of them had also been done. The findings were first categorized adopting thematic analysis. Later, the findings were converted to quantitative data using descriptive statistics for objective analysis.

3. Results

This section attempts to explain the status of the women directors of listed financial institutions of Bangladesh. The findings as well as the analysis of the three research objectives of the study have been included respectively. Table 2 compares the percentage of male and female directors' presence in the listed companies according to the board size.

Table 2. Percentage of the Women Directors in the Listed Financial Institution

Sector	Board size		Male		Female	
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Bank	417	100	375	90	42	10
Insurance	746	100	581	78	165	22
Leasing	254	100	220	85	34	15
Total	1417	100	1176	83	241	17

The table 2 shows the percentage of the women directors of the listed financial institutions. It appears that the ratio of male directors and female directors is 5:1 with the listed financial institution of Bangladesh. From the table, it is clear that the percentage of male directors in the total companies are 83% and that of women directors is only 17%. These findings declare that, women participation rate is very low in the listed financial institutions. And that might even be due to the BSEC provision that requires the presence of at least one women on board (see Appendix A). According to the NIS theory, when compliance is done to conform with social rules, that often fails to realize the expected benefits of compliance. Hence, the women who existing even with the low ration, has the possibility of lacking required competence and act their fiduciary duties as a Director.

In order to understand the justification of this proposition, following the triangulation method, this study interviewed a few respondents, and requested to shed light on it. One of them (female) confidently said now women can be seen at boards due to compliance with legal provisions, and more are not there because of the social taboos, stereotyped mentalities about the competence of women. Some other respondents also highlighted on the discriminatory behavior women at the top are facing, and they preferred to blame the established culture which accepted women to be lower in all aspects compare to men.

However, an interesting fact emerged while analyzing the profiles of the women leaders at the board. Although the provisions[2] do not specify anything about the qualifications of the Directors as have been explained in OECD principles (See Appendix B) all of the female directors were found to be highly educated (see table 2), and all of them were University graduates. The literature review section (in page 3) explained education background is important for all the directors regardless of gender to be effective in leadership roles. The study of Ferdous (2018) also expressed this concern by stating that over the last two decades among the university business graduated females are dominating the top position in the merit list. She also expected that these meritorious women have the potential to be a successful leader. But, to be successful in leadership positions the

[2] i. Company Act 1994: (1) Every public company and a private company which is a subsidiary of a public company shall have at least three directors; (2) Every private company other than a private company shall have at least two directors and (3) Only a natural person may be appointed a director.

ii. BSEC Corporate Governance Regulation (2018): board of directors shall be constituted of in proportionate to the shareholding of: (a) promoters or sponsors or shareholders who control over individually or persons in concert; and (b) general shareholders including institutional shareholders, excepting independent directors' quota; where general shareholders' portion (quota) may be filled up by at least one general shareholder, female director(s), independent director(s) and/or executive director(s).

director must have knowledge, expertise and appropriate environment (Tricker, 2015; Mallin, 2013). Unfortunately, this study revealed that the women who are serving on the board, meet the educational qualification criteria, however, their nomination is influenced by kinship; not by their expertise. Thus, only education might not be helping them much to perform effectively.

This is not unique in Bangladesh. As Ferdous (2018) in her study also stated that in most of the countries where family owned companies dominate the corporate sector, Directors' nomination is to some extent obvious to be influenced by family members; and not all the men Directors take the leadership position through competence, they learn through experience, they are given the environment to grow up as Directors. Now the question arises, if women are also nominated in the same way, if they get the chance to grow. Unfortunately once again the social stereotypical notions come forward and the NIS proposition of the box compliance surfaced up as the findings of this study. In answering the question about the environment majority of the women claimed that "we are treated as a box ticking option, we are yet to get that acceptance like men that we will grow if we get the opportunity to work as a leader". Whilst some of the men respondents out rightly said, they have been taken as a token for compliance, and some other expressed their doubts over the competence of women. Hence, the discrimination in getting the right environment was very clear.

The table 3 presents the educational background of the women directors of the listed financial institutions of Bangladesh. From the table, it can be identified that all the women directors are university graduates but only 19% women directors of the total listed financial institutions have post graduate degree. This is quite similar to Australia (like, 28% female directors have Masters Degree or PHD) and quite opposite to New Zealand (like, 83% female directors have Masters degree or PHD) (Burgess and Tharenou, 2002). The believable ground of this situation is that, the women with good educational background have the basic knowledge of the works which makes them more skilled in their profession. One of the directors of leasing sector said that, "University graduates can understand the need of the firm easily and can work accordingly, however, Masters degree or PHD is for the academic sector."

Table 3. Educational Background of the Women Directors

Sector	**Graduation**		**Post-Graduation**	
	Number	Percentage (%)	Number	Percentage (%)
Bank	42	18	17	7
Insurance	165	68	17	7
Leasing	34	14	12	5
Total	241	100	46	19

Table 4 indicates the age range of women directors in the listed financial institutions. It states that the average age of the women directors in the listed financial companies is 45 years. So it emerges that the group of young women is leading the listed FIs which make them more compatible to adopt new ideas of leadership and the mixing up with the corporate culture becomes easy for them. This finding is similar to the Australian corporate sector which has younger group (45-49) of female directors; but slightly differs with the United States which has the older group (50-59) of female directors (Burgess and Tharenou, 2002). It means the age existing women on board in Bangladesh are compatible enough to exert more if the rest of the qualification and environment are given.

Table 4. Age range of the Women Directors

Sector	**Age range**
Bank	30-50 years
Insurance	33-75 years
Leasing	31-63 years

Table 5 presents the number of different types of directorship held by women in the FIs of Bangladesh. The most important factors to notice in the table is that, i) none of the women directors are working as executive director, i.e. they are not an employee of the company and not responsible for monitoring over the implementation of the strategic plans; ii) most of the women directors (87%) are non-executive directors. In answering "Why mostly non-executive?" both male and female respondent said, "Because it is easy to accommodate women as the non-executive director". This certainly raises concern about their intention of having women on board. Future studies should be carried on identifying the given roles and responsibilities of those female directors as non-executive directors. It wasn't possible for this study to explore the facts because the data was not available in secondary sources and the respondents also preferred to avoid answering this. According to Burgess and Tharenou (2000), also supported this concern by stating that it is easier because the social norms influence the firms to appoint women in non-executive position and women get less support from their families and counterparts.

Table 5. Type of Directorship Held by Women

Sector	Chairperson	Vice Chairperson	Executive Director	Non-Executive Director	Independent Director
Bank	0	3	0	34	4
Insurance	2	9	0	148	7
Leasing	3	2	0	27	2
Total	5	14	0	209	13

However, it is good to see that, (see in Table 5) women have also been selected as independent director and Insurance companies are in the lead. Hence, if the expertise and environment is ensured, women have the potential to break the stereotypes and prove their competence as an independent director.

The following table 6 presents the marital status of the women directors of the listed financial institutions of Bangladesh. It states that 93% female directors of the listed financial institutions are married which does not match that of any other countries such as, Australia (have 65%), US (have 69%) and Canada (have 71%) (Burgess and Tharenou, 2002). This massive amount of married women in the top position is not surprising in the Bangladeshi context since there is a trend of early marriage. Most of the females get married in their student life and so they have to work after marriage which as claimed by the respondents has significant negative impacts such as, not attending board meetings, early departure from the office and resigning after having children. In replying “what to do in this state?” one of the female respondents again drag the topic of the view of this society and said that, “As long as our attitude towards women does not change, they can’t be able to lead beside men.” This statement is similar to the study of Bokhari and Hashmi (2016) which declared that this continental has a backdated view towards women empowerment. This clarifies the fact that the social environment is not quite suitable for women even in this 21st century.

Table 6. Marital Status of the Women Directors

Sector	Married		Unmarried	
	Number	Percentage (%)	Number	Percentage (%)
Bank	38	16	3	3
Insurance	163	70	2	2
Leasing	33	14	2	2
Total	234	93	7	7

Finally, Table 7 shows the year range of women directors’ experience of the listed financial institutions of Bangladesh. The average year of experience is 25 years which have been found by the following findings which indicates that women directors have somewhat moderate to high experience. The banking and leasing sectors have similar results but the interesting part is the result of the insurance sector. It indicates that the insurance sector appoints less experienced women which is not good for the board level job as stated by the respondents. One respondent from this sector mentioned that, “the intensive recruitment of family member in the board is the root cause for this less experienced members in the board.” The family business becomes a trend now in this country. Most of the insurance companies have both male and female family members in the boards. The plausible reason (see more on page 17) for this as argued by a respondent is the easy recruitment process of family member on the board. And that leads to an inexperienced company board which has been headed towards the corruption.

Table 7. Year of Experience of the Women Directors

Sector	Year Range
Bank	15-31
Insurance	8-35
Leasing	15-37

Surprisingly, analyzing the recruitment process of the women directors reveals very rare findings. According to the table 7, the highest percentage (50%) of recruitment process is through the family. Unexpectedly, the companies don’t recruit women directors through the existing policy (e.g. SEC Guidelines). The feasible cause of this situation is the laws (e.g. The Company Act, 1994 and The Bank Company Act, 1991) of including family members in the leadership position. Despite there is lots of qualified women working on the board, it is shocking that no one has been employed for their high-ranked profile. According to the feminist institutionalism of NIS theory, this situation declares that the firms don’t have positive views towards appointing women in the leadership position. And this is very much unlikely with other countries where profile is the main factor to recruit on the board (Burgess and Tharenou, 2000). And so the chances of corruption and incompatible board remain high.

Table 8. Recruitment Process of the Women Directors

Sector	Nomination		Promotion		Policies		Family Business	
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Bank	19	8	3	1	0	0	20	8
Insurance	65	27	11	5	0	0	90	38
Leasing	18	7	5	2	0	0	10	4
Total	102	42	19	8	0	0	120	50

The respondents from the interview stated some reasons of this situation of the recruitment process of women at the leadership position. They are: 1) lack of proper use of policies and guidelines; 2) easy appointment of family members; 3) discrimination in the family and the workplace; 4) lack of realization of women importance; 5) and lack of motivation and support from others. The reasons make it easier to state that the corporate sector of this country has been ruled by family business which creates a massive threat for the accountability and transparency of companies. Although women have high profile and there is a policy regarding hiring women as directors, it seems that there is no use of it. Hence, tokenism has been already developed in the companies. And so, this unhealthy condition can bring massive disasters like the stock market failure in 1996 and 2011, Sonali bank – Hallmark loan scandal, Oriental Bank, Bismillah Group; Janata Bank and Bangladesh Bank - the Central Bank of Bangladesh.

The aim of this section is to provide a discussion about the findings and analysis of the three research objectives which are to analyze the number, profile and recruitment process of women directors of the listed financial institutions. It demonstrates that, the listed financial companies have a low rate of women directors but they have a very good profile background. Most of them were recruited through family business because of backdated views towards women.

4. Discussion

Overall, it appears that, the scenario of Bangladesh regarding the percentage of women working at the top is not unique, rather resembles with the existing literatures: only a small number of women are working in the leadership position of the listed financial institution, and the most plausible reason is the necessity of confirming to the legislation. However, the profile of the women working at the top position is quite satisfactory in terms of age & educational background. Nonetheless, their independence is at stake, because of their percentage in comparison with the counterpart. Moreover, to make a remarkable contribution as director age and education is not enough, rather as the studies (Bokhari and Hashmi, 2016; Burgess and Tharenou, 2000) said, leadership style, working environment and competence is also crucial; thus the recruitment policy or system should have been appropriate. This study showed that women have been appointed as Chairperson, Vice Chairman, non-executive and independent director; and these roles are crucial and demands experience along with visionary skills. However, due to nepotism and compliance reasons with mandatory provisions companies are hiring women, not for their competence rather for conformance. Overall, it appears that the scenario of the women in the top position is nothing different than countries around the world, but the ways many developed countries have taken measures to encourage more competent women to be at the top to ensure gender diversity Bangladesh has limited itself only within ineffective laws, which has made it worse by making it mandatory.

Future studies should concentrate on the recommendations to overcome such problems, specifically the recommendations which are customized according to the reality of the corporate sector which is not supported by strong legal and regulatory framework and dominated by family owned companies and where the patriarchal stereotypical mentality prevails. Future studies should be carried on non-listed companies of Bangladesh and also on the successful women leaders who broke the glass ceiling and ensure their position with their own right.

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Appendix A

BSEC Guideline

At least 1 (one) member of the board of directors shall be a female who shall be qualified as a shareholder director or an executive director or an independent director.

Appendix B

OECD Principles: Ensuring a formal and transparent board nomination and election process

These Principles promote an active role for shareholders in the nomination and election of board members. The board has an essential role to play in ensuring that this and other aspects of the nominations and election process are respected. First, while actual procedures for nomination may differ among countries, the board or a nomination committee has a special responsibility to make sure that established procedures are transparent and respected. Second, the board has a key role in defining the general or individual profile of board members that the company may need at any given time, considering the appropriate knowledge, competencies and expertise to complement the existing skills of the board. Third, the board or nomination committee has the responsibility to identify potential candidates to meet desired profiles and propose them to shareholders, and/or consider those candidates advanced by shareholders with the right to make nominations. There are increasing calls for open search processes extending to a broad range of people.

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An Empirical Analysis of Underpricing and Oversubscription between Venture-Backed IPO and Non-Venture-Backed IPO in Italy

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Abstract

Over the years, in order to meet the financial needs of companies, new forms of financing alternative to the traditional banking channel have been developed. These include the institutional investment in risk capital, which is defined by the terms Anglo-Saxon venture capital and private equity. In this empirical analysis, the divestment of the venture capitalist's participation will be emphasized by listing the invested companies in the stock market, a channel not widely used in Italy, but highly desired because of the various benefits it can bring. Analyzing the IPOs that were carried out in Italy on the main list from 2007 to 2017, we will verify what is described in the economic literature, which is that a venture capitalist, by performing a certification role, is able to reduce the information asymmetries presented in the listing process and, as a result, contain underpricing and improve oversubscription. By using the presence of a venture capitalist within the venture capital as the only variable, it has been observed that on average the underpricing and oversubscription of the venture-backed IPOs slightly differentiate from the non-venture-backed IPOs. However, the study carried out shows that this difference, although not significant, turns out to be very interesting.

Keywords: venture capital, initial public offering, private equity, underpricing, oversubscription

1. Introduction

The ability of the financial system to guarantee adequate financing to companies is a fundamental element for the growth of the overall economic system. The lack of sufficient financial resources can be a factor limiting the functioning of an entire production system. It is such a significant problem in the Italian market since it is mainly composed of small and medium-sized enterprises (SMEs) that often have greater difficulty in accessing various financing sources (Pesic, 2013).

In Italy, the crisis starting in 2007 has made it more difficult for companies to access bank credit, which is the main financing of SMEs. Also, to achieve the capital objectives imposed by the Basel rules, banking institutions have practiced the so-called credit crunch against companies. In fact, today credit lines are granted, with extreme caution, only to those companies which have excellent financial statements and which can boast a good historical performance in their credit relations, while the prospects for growth are often not adequately considered by credit institutions (De Micheli, 2013).

Over the years, to make companies more resistant to the effects of the credit crunch, new forms of alternative financing channel have been developed. Among these, the institutional investment in venture capital of companies is assuming an increasingly important role within the modern financial system. Although still not widely used in Italy, this alternative financing form is analyzed to accentuate various advantages that can be offered to Italian companies.

First of all, the term institutional investment in risk capital means the contribution of financial resources by specialized operators, in the form of participation in the share capital or underwriting of bonds convertible into shares, over a medium-long time period, in unlisted companies with a project and potential for development. However, what makes this type of funding special is the fact that the institutional investor, together with the financial resources, offers his or her own wealth of knowledge and skills (Aifi, 2000).

The institutional investment activity in risk capital is generally defined by the terms Anglo-Saxon venture capital and private equity (Aifi, 2000). Although often used as synonyms, they can be distinguished according to the moment in which the acquisition of capital takes place in the financed company. Venture capital refers to the investment in venture capital of absolutely new companies and companies to be started, with high growth prospects, which would hardly be able to find financial means by traditional ways (Peacock & Cooper, 2000; Stowell, 2010). In the initial phase of the business activity, the entrepreneur or the members are unlikely to be able to immobilize substantial assets for an indefinite period, not tied to pre-established remuneration and subject fully to the business risk. Furthermore, despite the fact that for SMEs, banks continue to be the main interlocutor for SMEs, credit institutions are unlikely to provide credit in the absence of collateral, of which a new created company is rarely available, or personal guarantees provided by third parties, which are also difficult to find because of the high risk involved (Damiani, 2010). The interventions that venture capitalists make in order to finance the start is called early stage financing. Private equity, on the other hand, concerns the investment in risk capital of companies already underway that need capital to consolidate growth and sustain development. In addition to these interventions, called expansion financing, the private equity business is aimed at financing change processes within the company and at restoring corporate crisis situations (Maci, 2001).

The entrepreneur, in requesting this alternative form of financing, will try to identify the investor that best meets the needs of his business. In turn, the venture capitalist, whose goal is to achieve an important capital gain in the medium to long term through the sale of the acquired shares, will not be willing to finance an entrepreneur. Therefore, between the venture capitalist and the entrepreneur there is a mutual selection, in order to best satisfy their respective objectives (Gounopoulos & Pham, 2016; Kleinschmidt, 2007).

From an information point of view, venture capitalists are disadvantaged compared to companies. This is because, before funding is granted, they do not fully know the projects and the companies to be financed, so they are not always able to evaluate properly the risks and prospects of return associated with them (Davis, 2002). Moreover, once the loan is disbursed, they are unlikely to be able to fully control the work of the entrepreneur (Corigliano, 2001). To overcome the considerable information asymmetries between the two parties, it is important to make a precise choice of the target company to invest in, through a careful process of research, selection, and evaluation of the various investment proposals received. This procedure, common to all types of investment, takes the name of venture capital process and includes several phases that go from identifying a flow of investment proposals (deal flow) to the disinvestment of the shareholding (Gervasoni & Sattin, 2002). This last phase, the moment of the way out, is extremely delicate because only after the success of the disinvestment, the ultimate goal of the venture capitalist is attained, which is to achieve the maximum possible return (capital gain) from the investment (Cumming, 2010; Povaly, 2007; Megginson, 2004).

In 2017, the main procedures for the investment’s divestment were the trade sale (sale of the investment to industrial shareholders) and the buy back (sale of investments to the same entrepreneur and/or management) (Aifi, 2017). The trade sale is the most practiced method by the venture capitalist because, through the sale of the shareholding in another company, it is able to obtain a greater profit (the price paid by the acquiring company is higher than the actual share value) reaching its object of achieving a high capital gain from the sale of the investment. Instead, he could choose to buy back in the event of an unsatisfactory performance, which would make the company unattractive to other potential buyers (Cendrowski, Martin, Petro & Wadecki, 2008).

In the shareholders' agreements, some repurchase clauses may be included by the entrepreneur or by the management who take action upon the occurrence of certain conditions such as the limited appreciation of shareholding, the low interest of institutional investors in an IPO transaction or of potential industrial buyers in the event of a trade sale, the poor collaboration of the management or the co-investor and, finally, the reduced company performance (Gervasoni & Sattin, 2002).

In this paper, the most coveted choice for the venture capitalist, or the divestment of the shares through the listing on the stock exchange of the securities of the invested companies through an initial public offering will be analyzed. It is interesting to analyze this method because it can derive advantages for both investor and company. By choosing this method of disinvestment, the investor, especially in the event that his investment is successful, in addition to achieving high returns, could safeguard his reputational capital. However, as regards the invested company, the admission to the official list of stock exchange is a rather complex process that is difficult to access for small businesses, the venture capitalist helps them to be listed and allows them not only to access a new financing channel, but also to change the proprietary and managerial system, relationships with customers, suppliers, employees and with the financial environment in general (Bienz & Hirsh, 2006).

Finally, to verify whether the sale of shares (total or partial) through this method is an excellent choice, we will consider two indicators that are traditionally determined to verify the success of an IPO transaction, which are underpricing and oversubscription (Ball & Shivakumar, 2008; Boulton, Smart & Zutter, 2011).

2. The Italian IPOs in the Last Decade and Literature Review

The Initial Public Offering (IPO) is a public offering of the securities of a company that intends to be listed on a regulated market (Ernst & Young, 2015). When this operation is organized by companies in which shareholders are institutional investors (private equity and venture capital operators) it is called venture-backed IPOs (Pennacchio, 2013; Intermonte, 2016). In Italy, from 2007 to 2017, a total of 187 initial public offers were made and of these, 32 are venture-backed IPOs (processing data on AIFI and Italian Stock Exchange)

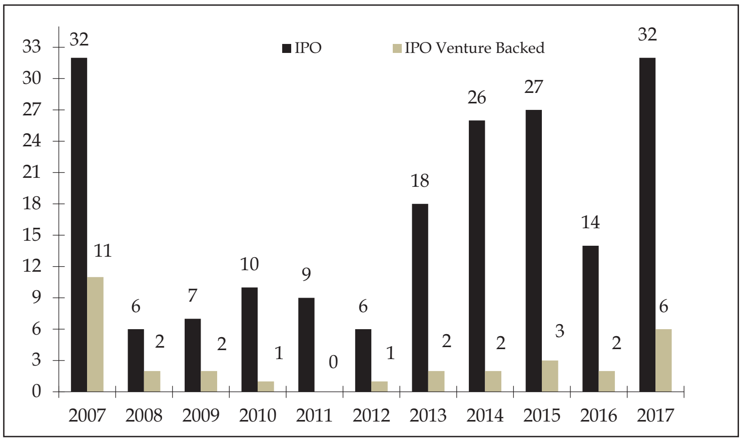

Figure 1. Initial Public Offering in 2007 – 2017

The global crisis, which began in 2008, caused a drastic drop in the number of new stock exchange numbers worldwide and, as a consequence of the limited attractiveness of the markets, the contribution made by private equity and venture capital to the Italian Stock Exchange also suffered a drastic arrest. In particular, in 2011 none of the 9 IPOs was supported by these operators. The IPO market resumed its pace in 2013, which was defined as the record year for new quotations on the Stock Exchange. This increase in companies listed on the Italian market was probably determined by the relaunch, from March 2012, of a single market dedicated to SMEs: AIM Italia. The most significant operation of 2013 concerned a venture-backed IPO, or the listing of Moncler on MTA which was defined as the largest IPO transaction for equivalent required since 2000. Together with Moncler in 2013 and Yoox in 2009, two other significant cases of venture-backed IPO during the period considered were Cerved and Anima, both listed in 2014 (Festa, 2018). 2016 was a difficult year in terms of IPOs, witnessing a reduction of 50% compared to the previous year. The possible factors determining this reduction may have been Brexit, the presidential elections in the United States and the Italian constitutional referendum that have increased market volatility, especially in the second half of 2016, influencing the strategy of companies and the timing with which to present a possible listing (Peveraro, 2017). On the basis of the new-found confidence in the Italian economy and the growing popularity of the Stock Exchange as an alternative to funding channels, 2017 was an exceptional year for the Italian Stock Exchange as regards the IPO market, which returned to its pre-crisis levels. The number of venture-backed IPOs also increased, representing around 19% of the total IPOs for 2017.

It is interesting to observe the choice of the stock market on which to place the securities of the invested companies. Even though the Italian AIM for SMEs was established by the Italian Stock Exchange, unfortunately it is not yet considered the main market on which to create the venture-backed IPOs. In fact, from 2007 to 2017 only 7 of the venture-backed IPOs are listed on the Italian AIM, around 22%. The remaining 25 venture-backed IPOs are listed: 17 on the MTA (53%) of which 9 in the Star segment and 2 in the Standard segment, 1 on the MTA/MTAX (3%) in the Blue Chip segment and 7 on the Expandi market (22%).

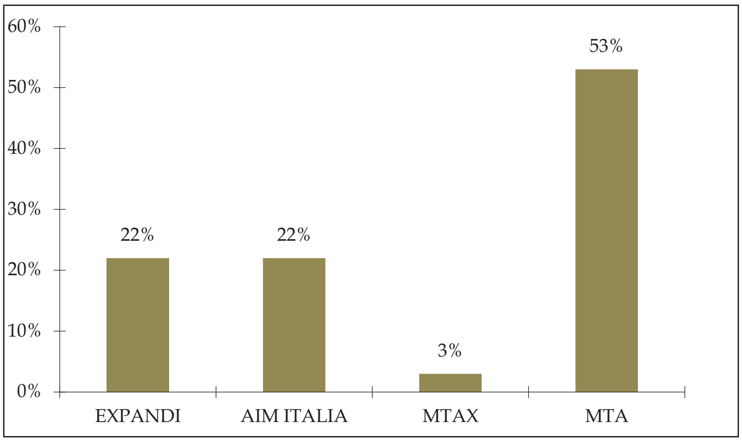

Figure 2. Initial Public Offering venture backed in 2007 – 2017

These results show that the contribution made by private equity and venture capital to the Italian Stock Exchange on the MTA market was not low. This result is probably due to the fact that, in order to be admitted to listing on this market, in addition to the formal requirements, the substantial requirements that venture-backed companies represent are required, thanks to the various services offered by the venture capitalist for the creation of value within the company itself. The contribution of the venture-backed companies, which are committed to meeting the most stringent requirements in terms of transparency and communication, liquidity and corporate governance was also significant within the Star segment of the Italian Stock Exchange. The rules of corporate governance required by the institutional investor in risk capital upon the moment of joining in the company, in order to regulate relations between management and shareholders and to provide the investors with the necessary information and corporate tools to contribute to the development of the company itself, anticipate most of the requirements of the regulations of all the evolved world stock exchanges (Bjuggren & Mueller, 2009). The invested companies that will want to be listed in the Star segment, therefore, will find an advantage over other companies thanks to this additional tool provided by the investor for the enhancement of the company.

Companies may choose to offer their securities to the public at a lower price, mainly due to the existence of significant information asymmetries among the various parties involved in the placement. The role played by the venture capitalist in the listing process makes it possible to reduce the problem of information asymmetries and, consequently, the phenomenon of underpricing is limited (Gao, Meng, Chan & Wu, 2017). The economic literature focuses on this aspect.

The first studies develop and test empirically the so-called hypothesis of certification: venture capitalists are well informed on the value of issuers that are presented in the portfolio, therefore, their role is to certify that the issuing price reflects all the internal information available. In this way, the certification of risk capital reduces the information asymmetries that arise in the IPO operations and, consequently, reduce the extent of the underpricing (DuCharme, Malatesta & Sefcik, 2001; Armstrong, Foster & Taylor 2009).

In line with the certification hypothesis, various empirical analyzes find that the IPOs of companies that are supported by venture capitalists are cheaper than the other IPOs. The first research on the topic was done in the 90s. The reduction in underpricing is due to the role of certification accomplished by venture capitalists who, operating constantly on the IPO market, are driven by the main intent to consolidate relations with companies, investors and the financial market, because they have reputational capital at stake. A good reputation for competence and honesty will allow him to establish a lasting relationship with the financial market. However, venture capitalists face a trade-off: to maximize the gains from the IPO, allowing the issuer to find more financial resources and increase shareholder profits, and safeguard its reputational capital in front of the financial community. This problem is solved, according to the theory, through an evaluation of the titles that reflects their fundamental value. The institutional investor certifying the fair value of the investee company, helps to bridge the information gap between investors and the company (Megginson & Weiss, 1991).

The importance of the selection and monitoring activity carried out in the enterprise by the venture capitalist should be underlined, which is reflected in the reduction of the underpricing of the venture-backed IPOs. The presence of the venture capitalist in the pre-IPO phase reduces the risk perceived by investors and certifies the goodness and the potential growth of the invested company compared to the others (Barry, Muscarella, Peavy & Vetsuypens, 1990).

A different explanation for the reduction of the underpricing is proposed by another autor who empirically develops and verifies a model that explains the mechanism of formation of the reputation for the venture capitalist. The Author distinguishes between young investors, without a significant track record that have yet to establish themselves on the capital market, and those already established. The results show that younger venture capitalists tend to bring in companies with a higher level of discount to create a reputation. Companies that have become public thanks to their intervention help them establish a good reputation with lenders and raise more money for future investments. Venture capitalists, especially for younger ones where fundraising becomes an important issue, are willing to bear the cost of underpricing to raise as many resources as possible (Gompers, 1996; Fan, 2007).

Over time, different explanations have been formulated. The venture-backed IPOs present higher underpricing levels than the other IPOs during normal periods of activity, while in the periods of stagnation of the stock market, an exactly inverse situation occurs. Observing this regularity, he proposes a theoretical model in which when the IPOs are guided by the initial decision of the investor to liquidate the original investment, in order to finance a new business, the underpricing is reduced. This happens in periods when the availability of new profitable investments is high and venture capital investors, in order to exploit the opportunities, seek to liquidate their investments in companies financed during an IPO quickly. In contrast, in normal times venture capitalists tend to maximize the return of each IPO they have funded (Rossetto, 2008; Gilson, 2003).

3. Data, Methodology and Hypothesis

As seen previously, the economic literature focuses on the role played by the venture capitalist in reducing the problem of information asymmetries in the listing process and, consequently, containing the underestimation of securities on international markets (Trester, 1988).

To verify whether this is also the case on the Italian market, a sample of IPOs realized between 2007 and 2017 is considered as the object of study. In particular, initial public offers on the MTA stock market were taken into consideration, which includes not only the companies that were originally listed on this market, but also those that traded on the MTAX market and on the Expandi market (the companies that originally traded on the MTAX market and on the Expandi market were transferred to the main list starting from March 3, 2008, following the merger between MTA and MTAX, and from June 22, 2009, following the final closure of the Expandi market). In the period and for the market, there were 62 new freshmen entering the Stock Exchange, of which 25 incurred by venture capitalists. In addition to underpricing, the oversubscription ratio of the securities of the companies under examination will be determined, being considered an indicator of the success of an IPO transaction.

The distinction between venture-backed IPOs and non-venture-backed IPOs is based on data collected by AIFI (Italian Association of Private Equity and Venture Capital). The data is necessary to determine the underpricing and the oversubscription ratio coming from Italian Stock Exchange S.p.A. and from the Investing.com website.

The underpricing is the difference between the closing price of the first trading day (β) and the placement price (π), compared to the latter. To facilitate comparison, it will be expressed as a percentage.

$$\text{Underpricing}= \frac{\beta - \pi}{\pi} * 100 \tag{1}$$

The oversubscription is the ratio between the number of securities required (Ω) and the number of securities issued by the company listed on the stock exchange (α).

$$\text{Oversubscription}=\frac{\Omega}{\alpha} \tag{2}$$

Table 1. Underpricing and oversubscription of venture-backed IPO

N.	Company's name	Placement price (€)	Price 1st day (€)	Titles offered	Titles required	Underpricing (%)	Oversubscription (%)
1	Anima Holding	4.2	3.837	189,626,112	1,049,821,709	-8.64	5.54
2	Banca Farmafactoring	4.7	4.14	53,000,000	88,200,000	-11.91	1.66
3	Banca sistema	3.75	3.91	42,876,525	91,022,084	4.26	2.12
4	Banzai	6.75	6.57	8,000,000	13,400,000	-2.66	1.67
5	Bouty Healthcare	1.3	1.4	11,200,000	14,571,027	7.69	1.3
6	Cerved	5.1	5	96,000,000	188,262,057	-1.96	1.96
7	Diasorin	12.25	12.55	19,000,000	62,785,576	2.44	3.3
8	Dobank	9	10.25	28,500,000	132,494,626	13.88	4.65

9	Enervit	2	2.451	1,800,000	3,456,000	22.55	1.92
10	Gamenet	7.5	7.61	10,500,000	10,500,000	1.46	1
11	Group MutuiOnline	5.6	5.973	13,829,155	121,051,050	6.66	8.75
12	IW Bank	4.6	4.9	13,385,000	95,630,547	6.52	7.14
13	Moleskine	2.3	2.28	106,360,000	393,532,000	-0.86	3.7
14	Molmed	2.15	1.1885	26,100,000	29,300,000	-44.72	1.12
15	Moncler	10.2	14.97	76,820,000	2,087,871,624	46.76	27.18
16	Piquadro	2.2	2.297	15,220,000	66,880,000	4.4	4.39
17	Pramac Group	4.2	4.3	10,933,767	41,646,880	2.38	3.81
18	Prysmian	15	15.89	72,000,000	278,756,062	5.93	3.87
19	RCF Group	2.8	2.8	10,000,000	16,715,335	0	1.67
20	RDB	5.1	5.4	13,200,000	34,858,410	5.88	2.64
21	SAT	12.35	13.31	1,860,000	37,952,873	7.77	20.4
22	Screen Service	1.6	1.7	69,250,000	286,325,577	6.25	4.13
23	Technogym	3.25	3.62	57,500,000	216,969,173	11.38	3.77
24	Unieuro	11	11.5	7,000,000	10,000,000	4.54	1.43
25	Yoox	4.3	4.66	24,330,703	105,000,000.00	8.37	4.31

Table 2. Underpricing and oversubscription of non venture-backed IPO

N.	Company's name	Placement price (€)	Price 1st day (€)	Titles offered	Titles required	Underpricing (%)	Oversubscription (%)
1	Aeffe	4.1	3.899	34,800,000	66,884,781	-4.9	1.92
2	Aeroporto di Bologna	4.5	5.95	14,049,476	39,162,516	32.22	2.8
3	Aicon Yachts	4.1	4.8	35,000,000	180,490,352	17.07	5.16
4	B&C Speakers	5	5.1	3,600,000	9,507,661	2	2.64
5	Best union company	3.4	3.394	3,510,000	4,304,823	-0.17	1.23
6	Bialetti Industrie	2.5	2.4816	18,750,000	88,790,968	-0.736	4.74
7	Biancamano	2.8	2.977	14,000,000	50,431,829	6.32	3.6
8	Brunelli Cucinelli	7.75	11.6	20,400,000	345,000,000	49.67	16.91
9	Coima Res	10	8.6	21,500,000	21,500,000	-14	1
10	Conafi Prestito'	5	5.5017	16,500,000	121,239,486	10.034	7.35
11	Damiani	4	3.664	26,355,500	75,105,648	-8.4	2.85
12	D'Amico International	3.5	3.5	59,979,963	164,135,346	0	2.74
13	Enav	3.3	3.65	252,600,000	1,816,209,794	10.6	7.19
14	Enel green power	1.6	1.6	1,415,000,000	1,780,000,000	0	1.26
15	Enia	10.1	10.87	36,463,686	270,827,409	7.62	7.43
16	Fincantieri	0.78	0.78	500,000,000	578,480,000	0	1.16
17	Finecobank	3.7	4	209,166,000	609,079,891	8.1	2.91
18	Gima TT	12.5	15.3	33,800,000	272,200,000	22.4	8.05
19	Il Sole 24 Ore	5.75	5.6	35,091,490	47,764,671	-2.6	1.36
20	Indel B	23	25.98	1,600,000	2,108,478	12.95	1.32
21	Inwit	3.65	4.07	239,800,000	1,910,233,884	11.5	7.97
22	Landi Renzo	4	4.324	40,000,000	365,792,163	8.1	9.14
23	M. Z. Beverage	11.6	11.63	12,200,000	18,800,000	0.25	1.54
24	MaireTecnimont	2.8	2.828	96,750,000	152,357,867	1	1.57
25	Omnia	5	4.7	9,000,000	21,660,000	-6	2.41
26	Openjobmetis	6.6	6.82	5,750,143	12,280,000	3.33	2.14
27	OVS	4.1	4.1	111,932,000	226,832,292	0	2.03
28	Pirelli & C	6.5	6.47	400,000,000	824,270,000	-0.46	2.06
29	Poste Italiane	6.75	6.7	453,000,000	1,520,000,000	-0.74	3.35
30	Rai Way	2.95	3.088	95,000,000	173,733,020	4.67	1.83
31	Rosss	2.1	2.015	1,850,000	1,850,000	-4.04	1
32	Salvatore Ferragamo	9	9.95	38,275,000	78,120,000	10.55	2.04
33	Servizi Italia	8.5	8.095	7,240,000	9,507,661	-4.76	1.31
34	Ternienergia	1.3	1.575	4,000,000	6,207,749	21.15	1.55
35	Tesmec	0.7	0.56	58,520,000	61,234,269	-20	1.05
36	Toscana Finanza	3	3.3	8,500,000	15,600,455	10	1.83
37	Zignago Vetro	4.5	4.784	13,829,155	121,051,050	6.31	8.75

To verify whether there are differences between the companies that are listed thanks to the presence of institutional investors and the companies that are listed without their support, the T-test will be used. The formulated hypotheses are:

$$\text{Hip 1} \qquad u_{ivb} = u_{invb} \tag{3}$$

there is no significant difference between the underpricing of the venture-backed IPOs and the non-venture-backed IPOs;

$$\text{Hip 2} \qquad u_{ivb} \neq u_{invb} \tag{4}$$

there is a significant difference between the underpricing of the venture-backed IPOs and the non-venture-backed IPOs;

Table 3. Description of statistics of undescription ratio

	Venture-Backed IPO	Non Venture-Backed IPO
Mean	3.9348	5.109135
Median	4.54	2
Std. Dev.	14.8818	12.45528
Observation	25	37
Test for difference between means	0	
T Test	- 0.233745	
Critical Value T (10%)	1.67	
Critical Value T (5%)	1.99	

$$\text{Hip 3} \qquad oivb = oinvb \tag{5}$$

there is no significant difference between the oversubscription of the venture-backed IPO and the non-venture-backed IPO;

$$\text{Hip 4} \qquad oivb \neq oinvb \tag{6}$$

there is a significant difference between oversubscription of venture-backed IPO and non-venture-backed IPO;

Table 4. Description of statistics of oversubscription ratio

	Venture-Backed IPO	Non Venture-Backed IPO
Mean	4.9372	3.653784
Median	3.7	2.06
Std. Dev.	6.061751	3.36204
Observation	25	37
Test for difference between means	0	
T Test	0.727121	
Critical Value T (10%)	1.67	
Critical Value T (5%)	1.99	

4. Results and Discussion

The undervaluation of securities is a common worldwide phenomenon, which distinguishes almost all IPO transactions (Nam, Park & Arthurs, 2014). Table 1 and 2 show that the underpricing phenomenon is presented in almost all IPOs and only in 18 transactions, underpricing is negative. Regarding the oversubscription ratio, on the other hand, it can be seen as a consequence of the highest underpricing granted to those who purchase the shares. This is an intuitive result, considering that an excess of demand at the time of placement inevitably leads to a portion of the unsatisfied demand, on the first day of listing, in the secondary market, generating an excess of demand and therefore an increase in the price. In confirmation of a possible correlation between the two indicators, the Moncler venture-backed IPO registered an oversubscription of 27 and an underpricing percentage of 46.76%. It was by far the IPO, listed on the main list, which was more successful in the last decade.

Table 3 shows that on average, in the period considered, underpricing is slightly lower for venture-backed IPOs. This result would seem to support the theories stating that in venture-backed IPOs, they reduce the information asymmetries between investors and the issuer, thanks to the certification role played by private equity and venture capital operators. By reducing the information asymmetries that arise in the IPO operation, the increase in a possible underestimation of the securities is also reduced. On the other hand, oversubscription would seem on average to be higher in venture-backed IPOs. This demonstrates the fact that reducing the information asymmetries, new investors, having more information, are more incentivized to acquire the company's securities and also, if they believe that investing in it can be very profitable, also increase the number of securities required. The securities of the venture-backed companies, therefore, are particularly appreciated by the market (Wongsunwai, 2013).

The calculation of the T-tests shows that the difference between the means is not significant. This result would suggest that the IPOs incurred by venture capitalists do not present less asymmetric information and, consequently, both the underpricing and the oversubscription would be on average equal to the other IPOs.

To demonstrate what the theory illustrates, we try to extend the studied sample (by 61%), because the small size of the sample could have determined the inadequacy of the test. Extending, therefore, the sample for a further 4 years (2003-2017) and considering the same stock market, the IPOs examined were 100: 40 venture-backed IPOs and 60 non-venture-backed IPOs. We check whether there is significant difference between the underpricing of the venture-backed and the non-venture-backed IPOs.

Table 5. Description of the statistics of the underpricing ratio of the new sample

	Venture-Backed IPO	Non Venture-Backed IPO
Mean	4.2175	7.0598
Median	-0.57	5.52
Std. Dev.	12.76455	12.19905
Observation	40	60
Test for difference between means	0	
T Test	0.7910344	
Critical Value T (10%)	1.67	
Critical Value T (5%)	1.99	

By expanding the sample, we noticed an increase in difference mean in the underpricing, but the significance of the test was not yet reached. The years prior to 2003 were not taken into consideration due to the lack of available data.

Furthermore, not only the presence of the venture capitalist but also different factors contribute to determine the extent of the underpricing. Some of these factors may be the age and track record of the company that people intend to quote, the size of the offer (produced between the number of securities offered and the relative price), the reputation of the underwriter (Cecchini, Jackson & Liu, 2012). Even when considering the calculation of the oversubscription ratio, some variables have been omitted, such as the sector to which the issuer belongs, its growth rates, the various balance sheet data, the performance of the financial markets, and the historical period.

To overcome the limitations of the study, to verify the existence of a substantial difference between the venture-backed IPOs and the non-venture-backed IPOs in the underpricing that in the oversubscription ratio requires extending the reference sample. Unfortunately, these data are not available and for this reason, further efforts would be needed from an organizational and financial point of view. Furthermore, all the omitted variables could be considered and a regression-based approach should be used.

Although the results achieved do not show that there are significant differences, this study could be used as a starting point for further studies in which the previously indicated limits are overcome.

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Economic Cost Analysis of New Energy Vehicle Policy -Empirical Research Based on Beijing's Data

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Abstract

In recent years, in order to improve Beijing's air quality and reduce vehicle emissions, the Beijing Municipal Government promotes the popularization of new energy vehicles through purchase subsidies, plate lottery, and driving restriction policy. However, the increase in the number of new energy vehicles and the increase in the number of vehicles travelling on roads have intensified the traffic pressure in Beijing. Traffic congestion has increased the emissions of motor vehicle exhaust in turn, resulting in higher socio-economic costs. Based on the actual data of Beijing, this paper quantitatively analyzes the economic cost of new energy vehicle policies by discussing the impact of current new energy vehicle policies on time, energy consumption and tail gas cost. Empirical results show that during the implementation period of the new energy vehicle policy, time cost and tail gas cost increase, energy consumption cost decreases, and the overall economic cost of the policy implementation period increases from 50 million yuan to 321 million yuan.

Keywords: New Energy Vehicle (NEV), policy cost, economic cost, Beijing

1. Introduction

In order to reduce vehicle emissions and improve air quality, the Beijing Municipal Government actively promotes new energy vehicles by relaxing restrictions on new energy vehicles regarding the plate lottery policy and the driving restriction policy. First of all, the new energy vehicles are not restricted by the driving restriction policy. According to the Beijing Municipal Government's General Regulations on the implementation of the restricted traffic management measures during the peak hours of the working day, the pure electric passenger cars are not restricted by this policy. Secondly, judging from the license plate lottery policy, compared with traditional energy vehicles, new energy vehicles have a higher probability of obtaining new licenses. The proportion of new energy vehicle quota in the total annual quota for the 2011 to 2017 plan has risen to 40% (see Table 1).

Table 1. 2011-2017 Beijing New Passenger Car license quota (10,000 units)

Year	Traditional energy vehicles	New Energy Vehicles	Total Quota	NEV Propotion（%）
2011	24	0	24	0%
2012	24	0	24	0%
2013	24	0	24	0%
2014	13	2	15	13%
2015	12	3	15	20%
2016	9	6	15	40%
2017	9	6	15	40%

（Data source: Beijing Traffic Management Bureau, http://jtgl.beijing.gov.cn/）

In recent years, more and more researches have focused on the impact of new energy vehicle policies on traffic congestion and air quality.

2. Literature Review

In the process of implementation of the new energy vehicle industry policy, it will have an impact on air quality and traffic congestion. In order to quantify the impact of these two aspects, this section summarizes the academic research results on air pollution costs and traffic congestion costs.

First of all, air pollution costs include the health costs of residents. Kan & Chen (2002) find that air pollution directly affects the health of local residents. The main components of smog are closely related to the health of residents. The higher the concentration of fine particles, the higher the mortality and morbidity of residents. Second, air pollution costs also include transportation costs. Malm (1999) finds that the concentration of smog is closely related to visibility, especially to the optical properties of the urban atmosphere up to 99%. Therefore, the smog will directly hamper the efficiency of transportation through land, sea and air modes and result in increasing traffic costs. Up to now, domestic and foreign scholars have used the methods of human capital, direct loss assessment, and statistical life value to account for the losses caused by air pollution in China. Among them, the World Bank assessed the health losses caused by air pollutants in China in 2007, which was calculated to be 157 billion yuan by the human capital method and 529 billion yuan by statistical biological value method, equivalent to 1.2% and 3.8% of the gross national product. In January 2013, many cities in China suffered from severe smog pollution. Mu and Zhang (2013) assessed the economic costs of the smog in terms of transportation and health losses. The research results show that the direct economic loss of this severe haze incident is conservatively estimated at 23 billion yuan.

Although the concept of traffic congestion costs and air pollution costs may overlap, there are still significant differences. Delucchi (2004) defines congestion costs as delays in travel time caused by traffic congestion, including opportunity costs and intrinsic costs, compared to smooth driving. The study of congestion costs began in the United States, and Vickrey (1963) first discussed the use of traffic pricing to solve congestion problems. Xie *et al*. (2011) believe that the additional energy consumption and exhaust emissions of traditional energy vehicles (such as diesel and gasoline vehicles) caused by traffic congestion, should also be included in the congestion costs. In this study, the authors collected the traffic volume and vehicle speed in the congested section of Beijing, and used the general traffic cost algorithm to estimate the social cost caused by congestion in Beijing. Wu *et al*. (2011) predicted the transportation cost in 2009 based on the estimated 2008 Beijing traffic congestion cost, and compared the results with the existing researches.

At present, the academic research on the traffic conditions and the emission of air pollutants by the policy factors mainly uses the system dynamics model to conduct qualitative analysis and simulation. However, few studies have quantitatively analyzed the impact of new energy vehicle policies on traffic conditions and environmental pollution, and cannot quantify the economic cost effects of policy factors. This paper analyzes the impact of policy factors on the traffic congestion and air quality of new energy vehicles by establishing a quantifiable new energy vehicle industry policy evaluation model, and estimates the economic costs of policy implementation using Beijing's traffic and air quality data.

3. Model

Based on the literature review, this paper mainly discusses the time cost, energy consumption cost and exhaust cost caused by congestion when studying the economic cost of the NEV policy implementation. At the same time, this paper estimates the cost of the implementation and non-execution of the NEV policy. The difference is the economic cost of the NEV policy studied in this paper.

This paper examines the impact of new energy vehicle policies on traffic congestion, vehicle emissions, and the economic costs of policy implementation. The plate lottery policy has increased the number of new energy vehicles. The driving restriction policy does not restrict new energy vehicles driving on the road, which increases the total number of vehicles driving in the road network, which may worsen traffic conditions. As for the impact of air quality, on the one hand, the deterioration of the traffic condition under the implementation of the policy has led to an increase in the emissions of traditional gasoline vehicles and increased emissions from motor vehicle exhaust. On the other hand, the increase in the number of new energy vehicles and the increase in the amount of electricity used during operation have indirectly increased the amount of sulfur dioxide (SO_2) emitted by thermal power plants. Therefore, the implementation of the new energy vehicle policy has both positive and negative factors for Beijing's air quality. In the process of implementing the new energy vehicle policy, the road traffic congestion situation is aggravated, which increases the time cost due to congestion and affects the energy cost and tail gas treatment cost of traditional energy vehicles. These three parts constitute the economic cost of the new energy vehicle policy. Therefore, the economic cost of the new energy vehicle policy studied in this paper refers to the increased traffic congestion caused by the implementation of the new energy vehicle policy, and the resulting traffic congestion costs, including time cost, energy cost and exhaust gas cost.

The congestion cost of this paper refers to the additional cost of driving in a congested state than in a smooth driving state. In the congestion state, the additional cost includes the time cost incurred by the traveler's travel time. Additional energy consumption from motor vehicle idling and additional environmental pollution costs resulting from increased vehicle exhaust emissions at idle state. Wu *et al*. (2011) economically congested congestion costs into direct and indirect costs. Based on the actual situation of Beijing residents' travel and motor vehicles, and referring to other scholars' research (such as Qin & Li, 2018), this paper ignores the cost that is difficult to quantify and complicated in practice. Therefore, the model of congestion costs is as follows:

$$EC_{total} = C_{time} + C_{fuel} + C_{exhaust} \tag{1}$$

In formula (1), EC_{total} indicates the total cost of congestion, C_{time} indicates the additional time cost incurred by congestion, C_{fuel} indicates additional fuel consumption costs due to congestion, $C_{exhaust}$ indicates additional air pollution costs resulting from congestion.

3.1 Additional Time Cost

The time the vehicle travels is related to the speed of the vehicle. The lower the running speed of the vehicle, the longer it takes for the vehicle to travel. Based on the human capital assessment method, under the same economic development the longer the travel time and the greater the time cost. Based on the impact model of new energy vehicle policy on road traffic, the plate lottery policy and the driving restriction policy make the number of vehicles on the road network increase. Under the premise that the road rate remains stable, the number of vehicles on the road network traffic increases, increasing the vehicle density of the road network and slowing the speed of running the vehicle. Based on the empirical model of road traffic, this paper calculates the average vehicle speed under the new energy vehicle policy and without NEV policy. Based on the Beijing Statistical Yearbook data, we calculate the average hourly wage of employees in Beijing during the policy implementation period, and we also calculate the time cost in each state. Assume that Beijing's free-flow speed and working day commute time are in line with the traffic analysis report of major cities in China published by Gaode Map.

3.2 Additional Energy Costs of Traditional Energy Vehicle

The energy consumption of a motor vehicle is related to its driving state. The study found that the energy consumption of a motor vehicle in a congested state is greater than the energy consumption of a motor vehicle in a smooth driving situation. When the probability of congestion increases and the mileage of congested sections increases, the energy consumption of motor vehicles will increase accordingly. The implementation of new energy vehicle policy ultimately increases the probability of road traffic congestion. This paper calculates the road network congestion probability under the implementation of the new energy vehicle policy and the road network congestion probability without implementing the new energy vehicle policy respectively. Subsequently, we calculate the energy cost in two states according to the energy consumption under the smooth running of the motor vehicle and the energy consumption under the congestion state. Assume that the smooth-running energy consumption and the energy consumption in the congested state are in accordance with the research of Wu *et al*. (2011). The annual mileage of the motor vehicle complies with the report published by ISSRC.

3.3 Additional Exhaust Gas Costs of Traditional Energy Vehicle

Based on the impact model of new energy vehicle industry policy on air quality, the emission of motor vehicle exhaust is related to the state of vehicle driving. In the state of congestion, the exhaust emissions of motor vehicles are greater than the emissions of motor vehicles under smooth driving. Exhaust emissions from motor vehicles include volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxides (NOx) and other polluting gases and large amounts of greenhouse gases (CO_2). In the process of calculating the cost of exhaust emissions, this paper distinguishes the treatment costs of greenhouse gases and the treatment costs of polluting gases. The cost of greenhouse gas treatment is exemplified by the international carbon rights transaction price, and the annual investment of the Beijing Municipal Government's atmospheric management is regarded as the treatment cost of air pollution. Existing domestic and foreign researchers have found that the average contribution of motor vehicle exhaust emissions to atmospheric pollution is 40% (Liu *et al*., 2014; Zhang *et al*., 2013). Therefore, this paper considers 40% of the annual investment in the Beijing Municipal Government's atmospheric management as the cost of treating polluting gases in motor vehicle exhaust.

Based on the impact model of air quality on the policy, this paper calculates the exhaust emissions of motor vehicles under the new energy vehicle policy and the exhaust emissions of motor vehicles that do not implement the new energy vehicle policy. Based on the cost of vehicle exhaust gas treatment in Beijing, the cost of exhaust gas in two states is calculated.

4. Empirical Analysis

This paper firstly calculates the average speed, congestion probability and exhaust emissions of motor vehicles under the two states of implementing new energy vehicle policy and not implementing new energy vehicle policy. In the following step, according to the average hourly wage, congestion status and smooth driving state of the employees in Beijing, the international carbon rights transaction price and the Beijing Municipal Government's annual air pollution management cost, this paper calculates the time cost and energy consumption in two states. According to whether to implement the congestion cost of the new energy vehicle policy, this paper estimates the congestion cost caused by the implementation of the new energy vehicle policy, that is, the economic cost of the new energy vehicle policy referred to in this paper.

To quantify the economic cost of the new energy vehicle policy, this paper calculates the congestion costs under the two states of implementing the new energy vehicle policy and not implementing the new energy vehicle policy. The difference is the economic cost of the new energy vehicle policy. Among them, the new energy vehicle policy is referred to the policy of small passenger car indexing and the restriction of new energy vehicles. The implementation of the new energy vehicle policy will increase the number of vehicles on the road, thereby increasing the number of vehicles traveling in the road network and increasing the vehicle density of the road network. Compared with the policy of not implementing new energy vehicles, the average speed of vehicles in the road network will decrease, the probability of congestion increases, and the cost of congestion increases. That is, the congestion cost of the road network when the new energy vehicle policy is implemented will be greater than the congestion cost when the new energy vehicle policy is not implemented.

4.1 Calculate the Additional Time Cost

Time cost refers to the economic cost corresponding to the time it takes to travel in a congested state and the time it takes to travel in a smooth state. Therefore, when calculating the time cost, this paper first calculates the economic cost per unit time. Then we calculate the time cost of road congestion due to the implementation of the new energy vehicle policy, and calculate the time cost of the new energy vehicle policy.

(1) Economic cost per unit of time

The study found that cities with more developed economies and higher basic wages have more losses due to congestion. The main reason is that the more economically developed, the higher the basic wage, the higher the economic cost per unit time. This paper calculates the economic cost per unit time based on the number of employees at the end of the year and the total wages of urban employees in Beijing. According to China major cities traffic analysis report (Gaode map), and we assume that Beijing residents work 22 days a month, 12 months a year. Table 2 shows the economic costs per unit time in Beijing from 2014 to 2017.

Table 2. Economic time per unit time in Beijing from 2014 to 2017

Year	Number of employees (10 thousand)	Total wages of employees (billion yuan)	Average hourly wage (yuan)
2014	708.8	7293.3	48.72
2015	724.8	8225.2	53.73
2016	744.1	9042.9	57.55
2017	761.7	9892.2	61.49

(2) Congestion time affected by the NEV policy

The congestion time affected by the policy refers to the difference between the congestion time under the new energy vehicle policy and the congestion time when the new energy vehicle policy is not implemented.

$$\Delta t = t_1 - t_2 \tag{2}$$

$$t_i = t - \frac{t \times v_i}{v_f}, i = 1,2 \tag{3}$$

Δt indicates the congestion time affected by the NEV policy. t_1 and t_2 respectively indicate the congestion time under the current new energy vehicle policy and the non-implementation of new energy vehicle policy. i indicates two states of implementing new energy vehicle policy and not implementing new energy vehicle policy. v_i indicates the actual speed in two states. v_f indicates the free flow speed in Beijing. t indicates the assumed daily commute time.

Table 3 shows that the congestion time caused by policy implementation per person per day in Beijing during the implementation period of the new energy vehicle policy (2014-2017) is increasing year by year: from 0.00072 hours per person per day to 0.00603 hours per person per day. The results show that with the implementation of the NEV policy, the impact of policies on traffic conditions is intensified, resulting in increased congestion time due to policy implementation.

Table 3. Congestion time caused by the NEV policy per person per day in Beijing (hour)

Year	Congestion time under NEV policy	Congestion time without NEV policy	Time cost caused by the NEV policy
2014	0.8037	0.8030	0.00072
2015	0.8127	0.8109	0.00180
2016	0.8276	0.8237	0.00393
2017	0.8458	0.8398	0.00603

(3) Time cost of the NEV policy

The time cost of the NEV policy is determined by the economic cost per unit time, the congestion time affected by the policy, and the annual working day time in Beijing and the number of employees on the job.

$$C_{TIME} = c_{time} \times \Delta t \times d \times N_{employee} \tag{4}$$

C_{TIME} indicates the economic cost per unit of time. d indicates the number of working days per year. $N_{employee}$ indicates the number of employees at the end of the year.

Table 4. Time cost of new energy vehicle policy from 2014 to 2017

Year	Time cost (billion yuan)
2014	0.65
2015	1.85
2016	4.44
2017	7.46

Table 4 shows that during the implementation period of the NEV policy, the time cost of the new energy vehicle policy has increased year by year, from 65 million yuan to 746 million yuan. The reasons mainly include three aspects: (1) With the urban construction and economic construction in Beijing, the economic cost per unit time has increased year by year; (2) According to the research results of the impact of the new energy vehicle policy on road traffic, the implementation of the new energy vehicle policy increases the vehicle density of road network traffic and deteriorates the traffic conditions, so that the congestion time of policy influence increases year by year. (3) With the further improvement of the urbanization level in Beijing, the number of employees in urban areas in Beijing has increased year by year, which has led to an increase in the number of people affected by the policy, which ultimately led to an increase in the time cost of the policy.

4.2 Calculate the Additional Energy Cost

The study found that the operating state of the vehicle is one of the main factors affecting the energy consumption of traditional energy vehicles. The energy cost refers to the economic cost corresponding to the energy consumption of the motor vehicle in the congestion state compared with the energy consumption required for the motor vehicle in the unblocked driving state. Therefore, when calculating the energy cost, this paper first calculates the congestion mileage caused by road congestion due to the implementation of the new energy vehicle policy, and then calculates the energy cost of the new energy vehicle policy based on the energy consumption in the congested state and the energy consumption of smooth driving.

(1) Congestion mileage affected by the NEV policy

The congestion mileage affected by the NEV policy refers to the difference between the congestion mileage under the current NEV policy and the congestion mileage when the NEV policy is not implemented. Based on the impact model of new energy vehicle policy on traffic congestion, this paper calculates the congestion probability in two states, and calculates the respective congestion mileage based on the congestion probability, and finally obtains the congestion mileage affected by the policy.

$$\Delta S = S_1 - S_2 \tag{5}$$

$$S_i = S \times P_i, i = 1, 2 \tag{6}$$

ΔS indicates the congestion mileage affected by the policy. i indicates the current state of new energy vehicle policy and the non-implementation of new energy vehicle policy. S_1 and S_2 indicates the congestion mileage in two states. P_i indicates the probability of congestion in two states. S indicates the annual mileage of the motor vehicle.

Table 5. The congestion mileage of a single motor vehicle in Beijing due to the NEV policy

Year	Congestion probability under the NEV policy	Congestion probability without the NEV policy	Congestion mileage affected by the NEV policy (km)
2014	19.82%	19.77%	9.73
2015	20.55%	20.40%	24.82
2016	21.77%	21.45%	55.27
2017	23.31%	22.80%	87.10

Table 5 shows that during the implementation period of the new energy vehicle policy, the congestion mileage of individual vehicles in Beijing due to the new energy vehicle policy increased year by year, from 9.73 kilometers to 87.10 kilometers.

(2) The energy cost of the NEV policy

The energy cost of the new energy vehicle policy is determined by the congestion mileage affected by the policy, the unit energy consumption in the congested state, the unit energy consumption during smooth driving, the unit price of energy consumption, and the possession of traditional energy vehicles.

$$C_{energy} = C_1 - C_2 \tag{7}$$

$$C_i = \left(e_{congestion} - e_{flow}\right) \times \mathrm{S} \times price \times N_i, i = 1,2 \tag{8}$$

C_{energy} indicates the energy cost of the new energy vehicle policy. i indicates the current state of new energy vehicle policy and the non-implementation of new energy vehicle policy. $C_1$and C_2 respectively indicates the energy consumption cost of congestion in two states. $e_{congestion}$and e_{flow} indicates the unit energy consumption of the motor vehicle in the state of congestion and smooth running, respectively. $price$ indicates the average unit price of energy consumption. N_i indicates the amount of traditional energy vehicles in state i.

Table 6. Energy costs of the NEV policy from 2014 to 2017

Year	Energy Cost (billion yuan)
2014	-0.02
2015	-0.26
2016	-0.13
2017	-0.23

Table 6 shows that the energy cost of the NEV policy is negative. That is, the current NEV policy consumes less energy than when the NEV policy is not implemented. Since new energy vehicles do not consume traditional energy sources such as gasoline and diesel, they use electricity as a power source, which ultimately reduces the energy cost of the NEV policies.

(3) Exhaust gas cost

The driving condition of a motor vehicle is one of the main factors affecting the exhaust emissions of motor vehicles. According to the IVE model, the vehicle exhaust emission factors under different operating conditions are obtained. Exhaust gas cost refers to the difference between the treatment cost required for the exhaust gas emitted by the traditional energy vehicle in the congested state and the treatment cost required for the tail gas discharged by the conventional energy vehicle under the free-flow driving state. The tail gas emitted by traditional energy vehicles can be divided into greenhouse gases (CO_2) and polluting gases (VOC, NO_X and CO).

i. Greenhouse gas costs of the NEV policy

This paper is based on the greenhouse gas cost under the influence of international carbon rights trading price calculation policy.

$$C_{greenhouse} = \Delta E_{CO_2} \times P_{CO_2} \times ER \tag{9}$$

$C_{greenhouse}$ indicates greenhouse gas costs. ΔE_{CO_2} indicates the amount of carbon dioxide emissions under the influence of the new energy vehicle policy, that is, the difference between the carbon dioxide emissions under the new energy vehicle policy and the carbon dioxide emissions when the new energy vehicle policy is not implemented. P_{CO_2} represents the price of international carbon rights transactions. ER indicates the average exchange rate of the US dollar against the RMB in the current year.

Table 7. Greenhouse gas costs under current NEV policy in Beijing

Year	Average exchange rate (USD/RMB)	CO_2 emissions under the NEV policies (10000 tons)	Greenhouse gas costs (billion yuan)
2014	6.14	-7.40	-0.08
2015	6.23	-18.91	-0.21
2016	6.64	-43.28	-0.52
2017	6.90	-149.50	-1.86

Table 7 shows that during the implementation period of the new energy vehicle policy, the carbon dioxide emissions under the influence of the policy changed from -74,400 tons to -149,500 tons. The carbon dioxide emissions under the influence of the policy are negative, and the absolute value of the number is increasing year by year. This shows that the carbon dioxide emissions from motor vehicle exhaust emissions under the current new energy vehicle policy are less than the carbon dioxide emissions from motor vehicles when new energy vehicles are not implemented, and with the implementation of policies, carbon dioxide emissions are increasing year by year. At the same time, the greenhouse gas cost has changed from -0.08 billion yuan to -186 million yuan, the greenhouse gas cost is negative, and the absolute value of greenhouse gas costs is increasing year by year. This shows that the cost of carbon dioxide emissions from traditional energy vehicles under the current new energy vehicle policy is less than the cost of carbon dioxide emissions from traditional energy vehicles when the new energy vehicle policy is not implemented.

ii. Pollutant gas costs of the NEV policy

The exhaust gas emitted by motor vehicles contains greenhouse gases and polluting gases. We calculate the pollutant gas costs based on the annual budget of the Beijing Municipal Government. First, we calculate the unit cost of polluting gas treatment from 2014 to 2017. Subsequently, we calculate the pollutant emissions under the influence of the policy. Finally, we calculate the polluting gas cost of the new energy vehicle policy.

a. Unit cost of polluting gas treatment

This paper calculates the vehicle exhaust emissions under the current Beijing policy based on the impact model of new energy vehicle policy on air quality. Then, according to the annual investment of the Beijing Municipal Government in air pollution control, we calculate the unit treatment cost of polluting gas in the exhaust gas of motor vehicles.

$$c_{cg} = \frac{I \times 40\%}{E_{cg}} \tag{10}$$

Where c_{cg} indicates the cost of polluting gas treatment; I indicate Beijing Municipal Government's annual investment in air pollution control. E_{cg} indicates pollutant gas emissions from motor vehicle exhaust in the current year. Table 8 shows that Beijing Municipal Government's investment in air pollution has increased year by year, and the cost of pollution control gas per unit of motor vehicles has also increased year by year. From 2014 to 2017, the cost of pollution control of motor vehicles per unit in Beijing increased from RMB 500 million/ton to RMB 101.4 million/ton, reflecting the people's determination to air pollution control and increasing emphasis on air quality.

Table 8. Unit cost of polluting gas treatment in Beijing, 2014-2017

Year	Investment in air pollution control (billion RMB)	Motor vehicle exhaust emissions (ton)	Unit cost of polluting gas control (billion RMB/ton)
2014	61.2	4559.82	0.005
2015	134	4666.87	0.011
2016	165.6	4929.34	0.013
2017	182.2	5245.78	0.014

b. Polluted gas emissions affected by the NEV policy

The polluting emissions affected by the policy refer to the difference between the traditional energy vehicle exhaust emissions under the current new energy vehicle policy and the conventional energy vehicle polluting gas emissions when the new energy vehicle policy is not implemented. Based on the impact model of new energy vehicle policy on air quality, this paper calculates the exhaust emissions of motor vehicles in two states and obtains the emissions under the NEV policy.

$$\Delta E_{cg} = E_{cg_1} - E_{cg_2} \tag{11}$$

ΔE_{cg} indicates pollutant gas emissions under the influence of the NEV policy. E_{cg_1} and E_{cg_2} indicate pollutant gas emissions from traditional energy vehicles under the current new energy vehicle policy and polluting emissions from traditional energy vehicles when new energy vehicle policies are not implemented, respectively.

Table 9 shows that the amount of polluting gas emissions affected by the policy has changed from -0.34 million tons in 2014 to -56,200 tons in 2017. The amount of polluting gas emissions affected by the policy is negative, and the absolute value of the number is increasing year by year. Thus, the pollutant gas emitted under the current new energy vehicle policy is less than when the new energy vehicle policy is not implemented, and as the policy is implemented, the emission reduction gas increases year by year. This is also in line with the empirical findings of the new energy vehicle policy on air quality impact models.

Table 9. Pollutant gas emissions affected by the NEV policy in Beijing, 2014-2017.

Year	Pollutant gas emissions with the NEV	Pollutant gas emissions without NEV	Pollutant gas emissions affected by the NEV policy
2014	167.91	168.25	-0.34
2015	171.20	172.05	-0.86
2016	179.73	181.66	-1.93
2017	189.92	195.53	-5.62

c. Pollutant gas costs of the NEV policy

The cost of polluting gases of the new energy vehicle policy is determined by the cost of polluting gas treatment and the amount of polluting gas emissions affected by the policy.

$$C_{pg} = \Delta E_{cg} \times c_{cg} \tag{12}$$

C_{pg} indicates the pollutant gas costs of the NEV policy. Table 10 shows that the cost of polluting gas of the NEV policy has changed from -0.05 billion yuan to -2.16 million yuan. From 2014 to 2017, the cost of polluting gases in the new energy vehicle policy is negative, and the absolute value of polluting gas costs is increasing year by year. This shows that the cost of treatment for the emission of polluting gases from traditional energy vehicles under the current new energy vehicle policy is less than the cost of treatment for polluting gases from traditional energy vehicles when the new energy vehicle policy is not implemented.

Table 10. Pollutant gas cost of the NEV policy in Beijing, 2014-2017

Year	Pollutant gas cost (billion RMB)
2014	-0.05
2015	-0.27
2016	-0.71
2017	-2.16

iii. Exhaust gas treatment costs of the NEV policy

Exhaust gas treatment costs under the influence of new energy vehicle policies include greenhouse gas treatment costs and pollution gas treatment costs.

$$C_{gas} = C_{greenhouse} + C_{pg} \tag{13}$$

Table 11 shows that the tail gas cost of Beijing's new energy vehicle policy has changed from -0.13 billion to -4.01 million yuan. The tail gas cost of the new energy vehicle policy is negative, and its absolute value is increasing year by year. This shows that the cost of motor vehicle exhaust emissions under the current new energy vehicle policy is less than the cost of motor vehicle exhaust emissions when the new energy vehicle policy is not implemented.

Table 11. Tail gas costs of the NEV policy in Beijing, 2014-2017 (billion RMB)

Year	Tail gas cost	Greenhouse	Polluting gas
2014	-0.13	-0.08	-0.05
2015	-0.48	-0.21	-0.27
2016	-1.23	-0.52	-0.71
2017	-4.01	-1.86	-2.16

4.3 The Economic Cost of the NEV Policy

The economic costs of the NEV policy studied in this paper include the time cost of the NEV policy, the energy cost of the NEV policy, and the tail gas cost of the NEV policy. Based on the annual cost of the previous empirical study, this paper calculates the economic cost of Beijing's NEV policy from 2014 to 2017. Table 12 shows that the total economic cost of Beijing's NEV policy has increased from 50 million yuan to 321 million yuan. Empirical results show that the total cost of Beijing's NEV policy is positive and increasing year by year. This means that the current NEV policy is not the most "economic" strategy. Compared with the non-implementation of the NEV policy, although the current NEV policy reduces the energy cost of motor vehicles and the cost of exhaust gas emissions from traditional energy vehicles, the NEV policy increases the time cost of travel. In addition, the increase in time cost is much greater than the reduction in energy costs and tail gas costs, making the current NEV policy uneconomical compared to not implementing the NEV policy.

Table 12. The economic cost of the NEV policy in Beijing, 2014-2017

Year	Total Cost	Time Cost	Energy Cost	Tail Gas Cost
2014	0.50	0.65	-0.02	-0.13
2015	1.11	1.85	-0.26	-0.48
2016	3.08	4.44	-0.13	-1.23
2017	3.21	7.46	-0.23	-4.01

5. Discussion and Conclusion

In recent years, with the continuous increase in the number of motor vehicles in Beijing, the road congestion problem in Beijing is severe increasingly. In order to alleviate the traffic congestion problem, the Beijing Municipal Government introduced and implemented the motor vehicle license plate lottery policy and the motor vehicle driving restriction policy. Since 2013, severe smog events with fine particulate matter ($PM_{2.5}$) as the main pollutant have appeared frequently in Beijing. Academic researchers have found that the average contribution rate of motor vehicle exhaust to air pollution in Beijing is 40%. In order to reduce vehicle exhaust emissions and improve Beijing's air quality, the Beijing Municipal Government has promoted new energy vehicles. Although new energy vehicles have potential benefits for air quality, the findings in this paper suggest:

First, the NEV policy will increase the traffic congestion probability in Beijing by increasing the total number of vehicles and the amount of the vehicles driving on the roads. Second, the NEV policy reduces vehicle emissions by reducing the number of traditional energy vehicles. However, due to the increase in traffic congestion, the emission of exhaust gas from a single traditional energy vehicle has increased. The effect of exhaust emissions becomes not obvious. Consequently, the implementation of the NEV policy will increase the economic costs.

Based on Beijing's actual traffic and air data modeling model and empirical research, this paper quantifies the time cost, energy cost and tail gas cost generated by the new energy vehicle policy to calculate the comprehensive economic cost of the NEV policy. The theoretical model of the economic cost of the NEV policy shows that the increase in the proportion of new energy vehicles to the total number of new motor vehicles will also affect the three indicators of the economic costs of the policy, namely time cost, energy cost and tail gas cost. In terms of time cost, the increase in the proportion of new energy vehicles will lead to a decrease in the average speed of vehicles, which will increase the congestion time affected by policies, leading to increased time cost caused by the NEV Policy. In terms of energy consumption costs, on the one hand, the increase in the proportion of new energy vehicles will lead to an increase in the congestion probability of road networks, increasing the congestion mileage of vehicles. Increased energy consumption, resulting in increased energy costs of the NEV policy. On the other hand, the increase in the proportion of new energy vehicles will lead to a decrease in the number of traditional vehicles, which will slow down the growth of traditional energy vehicles and reduce energy costs. The cost of exhaust gas is similar to the cost of energy consumption. On the one hand, the increase in the proportion of new energy vehicles has led to an increase in the probability of congestion in the road network, which has led to an increase in emissions from a single vehicle, resulting in an increase in the cost of exhaust gas for new energy vehicle policies. On the other hand, the increase in the proportion of new energy vehicles will lead to a decrease in the number of new energy vehicles, resulting in a reduction in the cost of new energy vehicles.

Based on the theoretical model, this paper empirically studies the model based on actual statistics in Beijing to assess the economic cost of the current new energy vehicle policy. The results show that during the policy implementation period, the economic cost of implementing new energy vehicle policies increased from 50 million yuan to 321 million yuan. That is, during the same research period, the congestion cost of implementing the new energy vehicle policy is greater than the congestion cost of not implementing the new energy vehicle policy. Therefore, this paper believes that the current NEV policy will generate greater economic costs, and it is recommended to adjust the existing policies on the quantity of ownership (plate lottery policy) and the number of roads (driving restriction policy) in order to give full play to the advantages of energy vehicles in energy conservation and emission reduction and control its adverse effects on traffic congestion.

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Exploring the Relationship between Government R & D Expenditures and Economic Growth in a Global Perspective: A PMG Estimation Approach

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Abstract

This paper analyses the impact of research and development (R&D) expenditures on economic growth in a global perspective utilizing the data of 60 developed and developing countries from 1998 to 2015. This study employs the Pooled Mean Group Estimators (PMGE) proposed by Pesaran et al. (1999) to find a heterogeneous trend among different groups of countries. The findings suggest that there exist a significant & positive relationship amongst R&D spending and economic growth globally, which appears consistent with economic theory. The study also confirms both long and short run relationship of economic growth and expenditures on R& D except that the short-run coefficient appears insignificant in the case of developing countries. This study implies that economies with higher R& D spending tend to have higher economic growth. This study has retentive policy implications for management and policymakers who could make important endeavors at the national level in this regard.

Keywords: economic growth, pooled mean group, R & D expenditures, panel-cointegration

JEL Classification: E23, O32, O47

1. Introduction

Innovation and technological development appear as strong economic indicators that increase both productivity and economic growth simultaneously. It is inevitable to adopt innovation activities along with technological developments to compete worldwide in the era of competition and globalization. R& D expenditures play a vital role in innovation activities and increase productivity and economic growth. Moreover, investment in R& D is very important to achieve growth economically in the long-run. (Romer, 1994). Hence, it is necessary to increase R& D expenditures to gain sustainable economic growth and to realize continuous change.

A rise in economic growth is thought to have a trickle-down effect, which, consequently, causes an increase in national wealth and better living standard. Theoretically, the growth rate affects the welfare level of economies. Therefore, it is important to quantify the role of different factors affecting economic growth. Research and development is one of those important factors. Different studies have been conducted to find out the effect of R& D on GDP growth. These studies vary in their outcomes. Both theoretical and empirical literature shed light on the fact that expenditure on R& D is a crucial factor of sustainable economic growth along with increasing innovation would have a positive impact on productivity. As a result, economies that spend more on R& D have higher value addition and economic growth.

Theoretically, R& D activities affect economic growth positively and in a persistent way. Endogenous growth theory provides the basis for developing a growth model by incorporating R& D activities that rely upon human capital and production of new goods. A model originated in the theoretical background of endogenous growth links expenditures on R& D and continuous economic growth in the long-run. R& D expenditures cause technological development and produce new knowledge. As a result, there is an increase in productivity and economic growth.

To achieve high economic growth rate, it is necessary to invest in developing knowledge and technologies. All such activities that contribute to achieving high growth rate including new production techniques, efficient use of production methods and introducing novel products are founded on R& D expenditures. In the era of globalization and competition, spending on technology and innovation activities is inevitable to integrate globally. That's the reason for higher economic growth rate in developed countries where more than 2 percent funds are allocated to R& D. In Pakistan, allocated funds to R& D have remained less than 1% and it was only 0.25% in 2015. As a matter of fact, economies that invest more in R& D development have higher economic growth rate.

The aim of this research study is to investigate the effect of R& D spending on economic growth in both developed developing countries (in a global perspective) by using data of 60 economies from 1998 to 2015. The hypothesis adopted in the study is to determine the long-run positive and significant relationship of GDP growth and expenditures on R& D. For the empirical investigation, a novel panel dynamic approach of pooled mean group estimators (PMGE) proposed by Pesaran et al., (1999) has been used. This study also uses panel unit root and panel cointegration tests to find the effect of R& D outlays on sustainable GDP growth. The research question undertaken in the present study is whether R& D affects economic growth positively in a large sample of sixty countries. Moreover, this research question has not been investigated incorporating Pakistan previously. The first attempt is being made by taking into account Pakistan in this context. The study combined both developed and developing countries from the European Union, SAARC, ASEAN, and OECD-member countries, Asian and South Asian economies, etc.

The findings support the hypothesis adopted and suggest not only a significant but also a positive relationship between spending on R&D and GDP growth globally. This outcome is consistent with economic theory. The outcomes of the study also confirm both long and short run relationship of GDP growth and expenditures on R& D except that the short-run coefficient does not appear significant in case of developing economies. On the whole, the results obtained are in line with theory and empirics. The organization of the study is as follows: Section-2 contains both empirical and theoretical literature both on R& D spending and growth. Section-3 presents different data sources and the methodology in detail. The discussion of findings is provided in section-4. The conclusion is offered in section-5.

1.1 Global R& D Expenditure Versus Pakistan

Globally, economies are focusing on competition which is created by technological development and globalization as well. In today's world, R&D activities are of large grandness to face this competition. It also has a significant effect on an economy's development level which can be measured through the allocation of resources to R&D expenditures as a percentage (%) of GDP.

Table 1. Gross Domestic Expenditures on Research & Development (% of GDP), 1998-2015

Countries	1998	2002	2007	2011	2013	2015
Pakistan	0.109	0.220	0.633	0.329	0.293	0.246
Turkey	0.371	0.526	0.722	0.860	0.945	0.632
China	0.649	1.064	1.384	1.794	2.015	2.066
Egypt	0.199	0.194	0.255	0.532	0.678	0.723
Mexico	0.317	0.382	0.369	0.426	0.501	0.552
India	0.692	0.713	0.791	0.822	0.822	0.627
Austria	1.736	2.070	2.432	2.682	2.964	3.072
Belgium	1.824	1.891	1.844	2.155	2.430	2.457
Denmark	2.006	2.442	2.515	2.966	3.085	3.014
Finland	2.787	3.257	3.346	3.639	3.297	2.905
France	2.084	2.166	2.020	2.191	2.243	2.231
Germany	2.212	2.415	2.446	2.796	2.826	2.878
Italy	1.008	1.084	1.132	1.209	1.306	1.335
Japan	2.960	3.116	3.461	3.383	3.474	3.284
Korea	2.149	2.274	3.000	3.744	4.149	4.228
Norway	1.605	1.631	1.565	1.628	1.654	1.933
UK	1.665	1.715	1.684	1.691	1.664	1.703
USA	2.497	2.550	2.627	2.763	2.725	2.794

Source: Eurostat-Database, World Bank

R&D expenditures both in Pakistan and around the globe indicate variation continuously. During the year of 2007, R&D spending is the highest i.e. 0.63% followed by a decline till 2015 instead of a rise in case of Pakistan. However, there is a wide gap between R&D spending as a share of GDP in Pakistan and developed economies around the world. Most of the developed economies show an increasing trend in their R& D spending including Italy, Austria, Belgium, Norway, Denmark, Germany, the United Kingdom-(UK), Korea, and the United States of

America-(USA). Among developing countries, China, Egypt, and Mexico indicate a rising trend in R&D spending. During 2015, Pakistan has the lowest spending that is 0.25% among all the countries shown in Table 1.

2. The Literature

This section reviews literature both theoretically and empirically on the relationship of activities related to research and development and economic growth of both developed and developing countries.

2.1 Theoretical Literature

Different macroeconomic theories explain the path of economic growth through research and development (R& D) spending. Therefore, some well-known theories that provide the basis to establish this relationship and highlight its importance over time are as follows:

According to Schumpeter (2003), economic growth is directly affected by innovation activities in a capitalist economy. Romer (1986, 1990) explains technological development is a primary source of economic growth and R& D expenditure is an important factor of economic growth. Decreasing return to scale is compensated through investment in human capital which is an outcome of R&D expenditures. According to Grossman & Helpman (1991), R& D spending is crucial to increase in economic growth. Pessoa (2010) argues that different novel ideas, production of new products and the emergence of new markets are the creation of innovation activities related to entrepreneurship.

Globally, different economies are focusing on innovation activities to compete with each other in today's world. Since the 1980s, endogenous growth theory is based on innovation and technology through R& D sector. R& D expenditure is considered as a driver of continuous economic growth in the era of globalization and competition. Literature supports R& D expenditures as an important input to increase economic growth.

A pioneer work by Schumpeter (1970) highlights the importance of innovation which includes new production and sales methods, the emergence of new markets and the manufacturing of new products, etc. Models developed within the scope of R&D activities are based on different sectors such as product sectors of both finished & intermediate and research & development sector which has a substantial role in achieving sustainability in economic growth through innovative ideas of human capital employed.

Initially, two different studies conducted by Romer (1986) and Lucas (1988) provide the basis for the endogenous growth model. According to Romer (1986), technology is very important for economic growth. One aspect of investment is to enhance information technology and knowledge generation which appear as a free input in the production process. As a result, there would be higher return and reduction in costs. Romer's study based on Arrow (1962)' concept i.e. learning-by-doing which, leads to lower costs, quality enhancement and increase in production in an economy as a whole.

Different endogenous growth theories incorporate R&D expenditure for sustainable economic growth (Romer, 1990; Aghion and Howill, 1992; Grossman and Helpman, 1991). According to Romer (1990), accumulation of knowledge as a result of R&D investments is crucial for the endogenous growth model. It is necessary to increase the number of researchers and R& D expenditure to observe long-term economic growth.

Grossman and Helpman (1984, 1990) growth models which are based on technological innovation associate economic growth with trade indicators such as foreign trade and openness. Grossman and Helpman (1984) argue that products such as modern industrial and conventional products along with R&D based on products including technology and knowledge generation. Accordingly, technology enables economies to have a comparative advantage and an increase in growth and global trade. According to Grossman and Helpman (1991), R&D investments in developing countries can be compensated through technology transfer from developed economies.

Aghion and Howitt (1992) developed a model based on innovation and creative destruction concept of Schumpeter (1970) which explains that innovations play an important role in the overall state of the economy. Rivera-Batiz and Romer (1991) emphasize that government could take appropriate policy measures to promote R&D activities. These activities foster economic growth. In this regard, the Government needs to support both institutions and activities related to research and development (R&D) through sound regulation.

Various theories during this decade highlight the importance of investment in R&D. Planned economic behavior and human capital affect long-term economic growth (Verbic et al., 2011). Investment in both R& D along with human capital is a primary determinant to increase efficiency. Investments in R& D through different channels like capital accumulation, human resource development, and innovation affect economic growth (Bor et al., 2012).

Evenson (1997) categorizes growth literature. Firstly, the post-Keynesian model which emphasized saving and investment to increase economic growth. Secondly, Neo-Classical growth models emphasize on external technical progress to encourage economic growth. Thirdly, the economic growth model emphasized R& D and human capital to determine long-run economic growth.

R& D generates profitability and also has spillover effects in the form of knowledge and information, etc. Kim (2011) links R& D to productivity. Spillover effects of R& D are known as knowledge transmission which leads towards innovation.

Theoretical literature is also foregrounded the fundamental role of R& D in growth at aggregate and disaggregate levels. Innovation and R& D activities are drivers of growth in different sectors such as industrial and service (Gerybadze, 2010). R& D plays a central role in the efficiency and economic growth (Samimi and Alerasoul, 2009). R& D is the fundamental determinant of long-term efficiency and consumer wealth (Jones and William, 2000). Peng (2010) regards R& D as a key factor for future growth. Bilbao and Rogriguez (2004) argue that investment in R& D is a key determinant of innovation, economic growth and to secure technological potential.

2.2 Empirical Literature

International spillover effects of R& D on different factors such as total factor productivity, output, organizational differences, small-medium size enterprises are found by different researchers (Nadiri and Kim, 1996; Coe et al., 2008; Nunes et al., 2012). Funke and Niebuhr (2000) find regional spillover effects on economic growth which are considered significant for near-by regions geographically.

Various panel studies have been conducted to find out the effects of spending in R& D on economic growth in economically well-developed economies such as OECD-member countries. Freire-Serein (1999), Altıntaş and Mercan (2015) and Bassanini ve Scarpetta (2001) found not only a positive but also significant association between investment in R& D and growth in twenty-one OECD economies. A similar relationship is also found by Sylwester (2001) for G7 countries, Özer ve Çiftçi (2008) for all OECD countries and Saraç (2009) for ten OECD countries during 1983-2004. Falk (2007) detects a long-term significance and positive effects of R& D activities on income for the period of 1970-2004. Zachariadis (2004) analyses the manufacturing industrial data from 1971 to 1995. The findings indicate that output and efficiency are positively affected by R& D activities. Gülmez and Yardımcıoğlu (2012) find a strong long-term relationship between economic growth rates and stock of R& D after analyzing both macroeconomic variables in OECD-member economies from 1990 to 2010.

Ulku (2004) finds out that a significant impact of R& D on innovation activities is found in twenty OECD economies and a positive relationship is also found between GDP per capita and innovation in a total sample of thirty countries. Another panel study conducted by Yanyun and Mingqian (2004) depicts that there exists an ascertaining relationship amongst R&D expenditures and growth for Korea, Japan, China and eight ASEAN economies for 1994-2003. Cluster analysis is conducted by Şimşek ve Behdioğlu (2006) between Turkey and OECD economies to examine the important association relationship between both growth and R& D from 1999 to 2002. The finding indicates that R& D indicators of Turkey lag behind OECD countries. However, investment in R& D appeared to be a fundamental determinant of productivity in different panel studies (Lichtenberger, 1993; Park, 1995; Coe et al., 1995 and Guellec and van Pottelsberghe, 2004).

Genç and Atasoy (2010) find a unilateral causal relation between R&D spending and growth from 1997 to 2008 through causality method. Similar results are found by Yaylalı, Akan and Işık (2010) in the case of Turkey for the period of 1990-2009. Sadraoui et al. (2014) also used causality method to find the relationship between economic growth and R& D collaboration employing data on thirty-two developed and industrialized countries over the period of 1970-2012. The results depict a strong causal relation of growth and R&D. Another study using causality approach by Altın and Kaya (2009) ascertains a long-term causality running from R&D spending to economic growth in the case of Turkey for 1990-2005. Güloğlu and Tekin (2012) found bidirectional causalities between growth & technological innovation and R&D & for 13 OECD countries during 1991-2007. Bozkurt (2015) finds out a unidirectional causality from growth to GDP in Turkey during 1998-2013. GDP growth is increased by 0.26 percent as a result of 1 % rise in R& D as a share of GDP.

Empirical studies also highlight the association between R& D and growth rate at individual country level instead of considering different economies at the group level. Horowitz (1967) analyses consistency between R& D activities and regional growth rates in different states of the United States of America over the period of 1920-1964. He finds satisfactory results. Kim (2009) investigates the relationship of R& D activities and growth through Cobb-Douglas production function for the period of 1976-2009 in case of Korea. The results quantify the contribution of R&D expenditures by about 35 percent in economic growth. Peng (2010) finds a strong association of growth and outlays on R& D for China.

Various empirical studies have been conducted by different researchers to confirm the association between investments in R& D and GDP growth in different countries in the long-run employing different type of models. These studies confirm not only a positive but also a significant relationship in the long-run (Korkmaz, 2010; Taban and Şengür, 2013; Goel et al., 2008; Horvath, 2011and Segerstrom, 2000).

Gumus and Celikay (2015) analyzed R& D activities' contribution to the GDP growth, comparing developing and developed economies. They found: "R&D expenditure has a positive and significant effect on economic growth for all countries in the long run, excluding developing countries where the effect is weak in the short run but strong in the long run."

3. Data and Methodology

The annual data on both variables including R&D expenditures and GDP at current US$ is retrieved from different sources such as World Development Indicators of World Bank (WDI-2017), the Statistical Office of the European Union (Eurostat-2017), UNESCO-2017 and different reports of Asian Development Bank (ADB) and OECD from 1998-2015. A total of sixty economies are included in the global sample[1], of which thirty-six are developed countries and twenty-four are developing countries.

3.1 The Panel Unit Root Tests

In this study, a pooled mean group estimators (PMGE) approach is used to determine the relation of R& D expenditures to GDP growth both in short and long-run. However, it is required to conduct stability analysis of different variables through appropriate unit root tests of Breitung (2000) along with Maddala and Wu (1999) for balanced panel data where the numbers of cross-section units (N) are greater than time-series units (T). Maddala and Wu (1999) test is based on Fisher-ADF and Fisher-PP tests to test the assumption of different autocorrelation among the panel units; Breitung (2000) examines the assumption of common autocorrelation in the panel units.

3.2 The Econometric Model

In this research paper, the canonical hypothesis that is founded on the endogenous growth model is tested through the following functional relationship:

$$\Delta Y = f(\Delta X, OtherFactors)$$

Where 'Y' represents the Gross Domestic Product (GDP growth) and 'X' indicates R& D expenditures. The econometric model takes the following form under the hypothesis that "there exists a long-term positive and significant relationship between R&D expenditures and economic growth". The basic model for panel data is as follows:

$$Y_{it} = \alpha_0 + \beta_0 X_{it} + \mu_{it} \tag{1}$$

Where, i= 1,…., N and t= 1,….,T; N represents the number of economies included in the sample and T is time period taken in this panel analysis.

i: 1,……,60 (Global Sample) t: 1,………..,18 (1998-2015)

i: 1,……,36 (Developed Countries) t: 1,………..,18 (1998-2015)

i: 1,……,24 (Developing Countries) t: 1,………..,18 (1998-2015)

3.3 Panel-Cointegration Test: Pedroni Test

After the panel unit root analysis, this paper applies panel-cointegration methodology proposed by Pedroni (1999) to examine whether panel units are heterogeneous or not. To test the heterogeneity among panel units is quite realistic rather than assuming that vectors are identical. Pedroni test takes the following form to estimate the long

[1] The global sample is tested for causality and finds unidirectional-causality from X (R& D) to Y (Economic Growth) where F-Stat. is 5.74 (P = 0.003). Statistics for Y (Mean = 2.48 & St. Dev. = 5.83) and for X (Mean = 1.81 & St. Dev. = 1.01). The global sample includes following countries: Austria, Canada, Hong Kong, Czech Republic, France, Cyprus, Germany, Spain, Belgium, Italy, Portugal, Ireland, Japan, Latvia, Estonia, UK, Norway, Croatia, Poland, Russian, USA, Trinidad & Tobago, Netherlands, Singapore, Kuwait, Slovak Republic, Denmark, Iceland, Slovenia, Finland, Sweden, Israel, Korea, Lithuania, Greece, Uruguay, Argentina, Bulgaria, China, Azerbaijan, Colombia, Belarus, Cuba, Serbia, Egypt, Armenia, Hungary, Kazakhstan, Panama, Mexico, Romania, Thailand, Tunisia, Ukraine, Kyrgyz Republic, Madagascar, Costa Rica, Turkey, India, and Pakistan

run relationship:

$$\ln(Y_{it}) = \alpha_i + \nu_i t + \beta_{1i} \ln(X_{it}) + \varepsilon_{it} \tag{2}$$

$$\hat{\varepsilon}_{it} = \hat{\rho}_i \hat{\varepsilon}_{it-1} + \hat{\mu}_{it} \tag{3}$$

Equation (3) indicates the estimated residuals. Pedroni classified seven statistics in two categories namely "Within Dimension" and "Between Dimension". The former category consists of four-panel statistics and later one includes three-group statistics under the null hypothesis (H0) of 'non-cointegration'.

3.3 Estimation of Panel-Cointegration: Pooled Mean Group Estimator (PMGE)

The panel cointegration models are used to predict the long-run relationship between macroeconomic variables based on economic theory. These models are helpful in estimating the regression coefficients and examining theoretical restrictions. There are different panel cointegration methods that are efficient asymptotically. Two types of econometric models are used to analyze panel data frequently. Firstly, the MGE (Mean Group Estimators) of Pesaran and Smith (1995) is appropriate for heterogeneity in both short-term and long term. Its efficiency is subject to a large sample (Pirotte, 1999). Secondly, methods include fixed or random effects and GMM allow equality across panel units.

However, the PMGE (Pooled Mean Group Estimators) is somewhere in the middle of both above-mentioned methods. The pooled mean group estimator (PMGE) suggested by Pesaran et al., (1999) takes into account heterogeneity in panel units only in short run, assuming that these units are homogenous instead of heterogeneous in the long-term. That's the reason; the PMGE is preferred to other panel cointegration tests. In contrast to fully modified (FM) and the dynamic ordinary least squares (DOLS) methodology, the PMGE shows the speed of adjustment of short-term dynamics towards long-term. The null hypothesis (H0) of the PMG estimator is that 'long run coefficient is homogenous' would be examined through the Hausman test. The PMGE would proceed as follows:

$$\ln(Y_{it}) = \alpha_0 + \beta_0 \ln(X_{it}) + \mu_{it} \tag{4}$$

The lag length criteria of AIC (Akaike Information Criterion) and SIC (Schwarz information Criterion) have been used to select a maximum lag length for In(Y) and In (X) i.e. one lag. It is assumed that both In (Y) and In (X) are of integrated of order one i.e. I (1) and residuals are of I (0). So the pooled mean group estimators/ ARDL (1, 1) model of Pesaran et al. (1999) takes the following form:

$$\ln(Y_{it}) = \eta_i + \omega_i \ln(Y_{i,t-1}) + \nu_{0i} \ln(X_{it}) + \nu_{1i} \ln(X_{i,t-1}) + \varepsilon_{it} \tag{5}$$

To find the long run adjustment speed, error correction model (ECM) would be as follows:

$$\Delta \ln(Y_{it}) = \phi_i (\ln Y_{i,t-1} - \hat{\tau}_{0i} - \hat{\tau}_{1i} \ln(X_{i,t-1}) + \nu_{1i} \ln X_{it} + \varepsilon_{it} \tag{6}$$

Where,

$$\phi_i = -(1-\omega_i), \hat{\tau}_{0i} = \frac{\eta_i}{(1-\omega_i)}, \hat{\tau}_{1i} = \frac{\nu_{0i} + \nu_{1i}}{(1-\omega_i)}$$

4. The Empirical Results

4.1 The Results of the Panel Unit Root Tests

Table 2 demonstrates the results of stability analysis for panel datasets including Maddala and Wu (1999) along with Breitung (2000). The results highlight that both variables appear non-stationary in level and the null hypothesis (H0) of panel unit root tests cannot be rejected for all the samples undertaken. However, all datasets including global sample and both developed & developing countries indicate that both variables are stationary in first differences at 1% and 5% level of significance. Therefore, these findings lead to apply panel cointegration test proposed by Pedroni (1999) to confirm the relationship between variables (research & development and GDP growth) undertaken in the long-run.

Table 2. Panel Unit Root- Results

	Maddala and Wu (1999)				Breitung (2000)		Decision about H_0
	Fisher-ADF		Fisher-PP				
	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.	
Global Sample							
Y_{it}	0.505	0.693	3.494	0.999	3.245	0.999	Accept
ΔY_{it}	-5.845*	0.000	-8.713*	0.000	-1.797**	0.036	Reject
X_{it}	0.912	0.819	2.484	0.993	2.829	0.997	Accept
ΔX_{it}	-13.80*	0.000	-15.74*	0.000	-6.031*	0.000	Reject
Developed Countries							
Y_{it}	1.095	0.863	1.215	0.888	-0.095	0.462	Accept
ΔY_{it}	-3.387*	0.000	-5.741*	0.000	-2.255**	0.012	Reject
X_{it}	0.102	0.540	2.337	0.990	1.830	0.966	Accept
ΔX_{it}	-9.670*	0.000	-10.60*	0.000	-4.424*	0.000	Reject
Developing Countries							
Y_{it}	2.896	0.998	3.778	0.999	-1.420	0.078	Accept
ΔY_{it}	-1.779**	0.038	-4.460*	0.000	-3.761*	0.000	Reject
X_{it}	2.708	0.996	1.723	0.957	2.100	0.982	Accept
ΔX_{it}	-10.79*	0.000	-16.32*	0.000	-4.102*	0.000	Reject

Notes. Rejection of H_0 = non-stationary at 1% level of significance is indicated by (*), or 5% by (**).

4.2 The Results of Pedroni Panel-Cointegration Test

Table 3 shows the findings of panel cointegration test of Pedroni (1999), which consists of seven-type of statistics under the two categories of Within-Dimension (Panel) consisting of four statistic out of seven and Between-Dimension (Group) has three statistics to test that whether R& D activities and GDP growth are co-integrated in the long-run or not under the null hypothesis of 'non- cointegration'.

Table 3. Pedroni Panel Cointegration Test- Results

Within-Dimension (Panel)						
	Global Sample		Developed Countries		Developing Countries	
Panel	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.
*v*_ Statistics	1.947**	0.025	2.982*	0.001	0.223	0.412
rho_ Statistics	-10.96*	0.000	-7.306*	0.000	-7.745*	0.000
PP_ Statistics	-14.53*	0.000	-9.807*	0.000	-10.16*	0.000
ADF_ Statistics	-10.66*	0.000	-9.352*	0.000	-5.948*	0.000
Between-Dimension(Group)						
	Global Sample		Developed Countries		Developing Countries	
Group	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.
rho_ Statistics	-4.504*	0.000	-2.932*	0.002	-3.531*	0.000
PP_ Statistics	-13.17*	0.000	-9.427*	0.000	-9.274*	0.000
ADF_ Statistics	-11.08*	0.000	-9.88*	0.000	-5.425*	0.000

Notes. Rejection of H_0 = non-cointegration at 1% level of significance is indicated by (*), or 5% by (**).

The former category has four-type of statistics polling autoregressive coefficients across all cross-section units of the panel and later one has three-type of statistics that averages out autoregressive coefficients of each cross-sectional unit of the panel. All types of statistics indicate that the null hypothesis (H0) can be rejected at 1% and 5% level of significance except that the null hypothesis of v-Statistics cannot be rejected in the case of developing countries. Therefore, economic growth and R&D spending are cointegrated in the long run for all panel datasets. The appearance of a long-term association between the variables verifies the endogenous growth model. Having found that two-variables are cointegrated in long-run, it paves the way to estimate the coefficient of adjustment using a panel-cointegration estimator. For this purpose, this research paper employs the Pooled Mean Group Estimators (PMGE).

4.3 The Results of the Pooled Mean Group Estimators (PMGE)

Table 4 reports the findings of PMG estimators of both short and long run coefficients along with the coefficient of adjustment (convergence parameter). A study conducted by Pesaran et al., (1999) is followed for the estimation of cointegration equations for the global sample and in case of both developed and developing countries. The speed of adjustment from short-term to long term is shown by convergence parameter that highlights the homogenous trend in coefficients of research and development (R& D) spending and GDP growth across the cross-sectional units of the panel. The coefficient of adjustment (-0.71) is significant at 1% level of significance and has expected sign. The findings reveal the adjustment dynamic in R&D expenditures from short to long-run equilibrium across countries in the global sample. The chi-square (χ^2) values of the Hausman test show that the null hypothesis, 'the long-run coefficient is homogenous', can not be rejected at levels of 1% or 5% in all cases. Therefore, the PMGE is appropriate to enquire the relationship of R& D spending and economic growth globally. These results are also supported by Bangake and Eggoh (2012) where the PMGE is considered appropriate to capture homogeneity.

Table 4. Pooled Mean Group Estimators (PMGE)-Results

	Global Sample		Developed Countries		Developing Countries	
	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.
LR Coefficient	0.969*	0.000	0.975*	0.002	0.938**	0.013
SR Coefficient	0.266**	0.029	0.194**	0.033	0.467	0.448
Constant	0.045*	0.000	0.043*	0.000	-0.047*	0.000
Adjustment Coefficient	-0.713*	0.000	-0.699*	0.000	-0.730*	0.000
Hausman Test (χ^2)	1.013	0.314	1.528	0.216	0.872	0.350
No. of Observations	1080		648		432	
No. of Countries	60		36		24	

Notes. Rejection of H_0 at 1% level of significance is indicated by (*), or 5% by (**). The PMG is based on ARDL (1, 1)

For the global sample, the coefficient of adjustment is both significant and negative at the level of 1%. This finding demonstrates that there exists a long-term association of R& D expenditure and GDP growth globally. This finding is similar as reported by Gumus and Celikay (2015). These findings reveal that an increment of 1% in R&D spending leads to raising economic growth by 0.27% in the short-run (SR) and 0.97% in the long run (LR). In the context of developed and developing countries, the convergence parameter also appears negative and significant confirming the long-term relationship of economic growth and R&D expenditure. According to results for developed economies, if there is 1% rise in R&D spending, economic growth would be raised by about 1% (i.e. 0.98%) in the long run (LR) and less than half of 1% increase in growth (0.19%) in the short-run (SR). This outcome is also supported by Bozkurt (2015) in terms of significance and positivity of both macroeconomic indicators. However, developing countries' results are insignificant but positive for the short run. This difference in results can be ascribed to the differences in capital stock and productivity which play a substantial role in economic growth and activities based on R&D.

The PMGE provides the results that short-term coefficients are significant for the developed countries and global sample. However, the short-term coefficient is insignificant in the case of developing economies reflecting that there is a lack of short-term relation between R& D spending and economic growth. Moreover, short run (SR) coefficient indicates that how the economy is adjusted to shocks, in case of developing countries, the contemporaneous co-movements of both variables (R&D and economic growth) do not respond to past shocks. This outcome is in line with that of Inekwe (2014). On the other hand, the long run (LR) coefficient appears significant at 1% and 5% levels of significance for all specifications of sample undertaken in this study. However, long term effects are dominated than those of short-term effects of R& D outlays on growth for the global sample and developed economies along with developing ones.

On the whole, the outcomes confirm the hypothesis undertaken in this study. There exists one-to-one relationship in the long run in macroeconomic series undertaken for analysis but this outcome differs with respect to significance and magnitude only in the context of developing economies in the short run. However, all the specifications of sample depict that endogenous growth model is valid for all economies in the long-run.

5. Concluding Remarks

This paper tries to investigate the impact of spending in research and development (R& D) on economic growth in a global perspective including both developed and developing countries from 1998-2015. This study applies the Pooled Mean Group Estimators (PMGE) suggested by Pesaran et al., (1999) to find a heterogeneous trend among a different group of countries. According to economic theory, a rise in R&D spending affects economic growth positively and significantly. It implies that changes in R&D based activities would impact economic growth, employment level, productivity, innovation and trade activities, and technological developments. The findings of this study defend the economic theory.

The findings suggest that there exist a significant & positive association of R& D spending and GDP growth globally. This finding is similar to that of Gumus and Celikay (2015). The study also confirms both long and short run relationship of R& D and economic growth except that short-run coefficient appears insignificant in the case of developing countries. This study implies that economies with higher R& D spending tend to have higher economic growth. Concerning the developing countries versus developed countries, the economic growth is lower in the former, implies that there is dire need to increase R& D expenditures to raise the economic growth both in long and short-run. The findings of this study are of main concern for management and policymakers who could make important endeavors at the national level in this regard.

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Factors of the Internal Environment and Their Impact on Organizational Excellence in the Public Universities in Southern Jordan from the Point of View of Workers

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Abstract

This study aimed at analyzing the internal environment factors and their impact on organizational excellence in the public universities in southern Jordan from the point of view of the workers.

To achieve the objectives of the study, a questionnaire was developed to cover the study variables. The study was conducted on a community consisting of (4) public universities distributed in the southern governorates: Mu'tah University, Tafila Technical University, Al Hussein Bin Talal University, the University of Jordan-Aqaba Branch.

Administrative employees at the middle administrative levels reached (301). The researcher conducted a comprehensive survey of the study community through using the analytical descriptive statistic methods, by using the Statistical Package for the Social Sciences (SPSS).

The study reached a number of results, most important are: The general arithmetic mean of the respondents' perceptions of the dimensions of the internal environment factors in public universities in southern Jordan has reached a medium rating. Also, the general arithmetic mean of the respondents' perceptions of the dimensions of organizational excellence in the public universities in southern Jordan reached a medium rating. Among other results, there is a statistically significant positive relationship between the independent variable (internal environment factors), and its different dimensions and the dependent variable (organizational excellence) and its different dimensions.

In light of the results of the study, the study recommended a number of recommendations, most important are: the necessity of preparing a working environment and its factors and the appropriate conditions that increase the organizational excellence, paying attention to developing the capabilities of the employees and training them according to studied scientific programs as well as the need to increase the volume of expenditure on research and development activities, because spending on such activities has become an investment spending.

Keywords: internal environment factors, organizational excellence, public universities in southern Jordan

1. Introduction

The internal work environment represents one of the main challenges that any organization - regardless of its activities, work or culture - must address within the framework of determining the future strategies and the overall objectives of the organization. This will positively affect the efficiency of the job performance of its employees both at the level of the individual and the organization through the good balance between an individual's potential and the work he performs in an organized, continuous and stimulating manner.

The process of analyzing the internal environment of the organization is of a particular importance because it identifies the potential of the Organization, both material and human, and it also identifies the Organization's strengths and weaknesses, which help identify the Organization's position compared to competing organizations.

Organizational excellence has become a necessity for organizations success, especially as the interest in organizational excellence comes from the need of these organizations to find ways and means to identify the obstacles they face if they arise, and to look into the sensitivity of the role it plays and its importance in achieving creativity and excellence in organizations.

1.1 The Study's Problem

The internal environment is the group of human, material and moral elements within the organization that interact with each other in order to achieve the production that the Organization presents to the market, and it is working towards achieving the goals for which it has been established. Management has the ability to control the internal environment. The internal environment is represented in the cultural level of the organization.

In order to illustrate the problem of study more clearly, the following question should be asked:

Do the factors of the internal environment of the organization have an impact on organizational excellence?

1.2 The Objectives of the Study

The research aims at achieving the following:

1- Present an appropriate theoretical framework that illustrates the impact of internal environmental factors in organizational excellence.

2- Present recommendations and proposals to decision-makers aimed at enhancing the excellence of the universities of the research.

3- Determine the relationship and impact between the internal environment and excellence in the universities of the research.

1.3 The Importance of Study

The study derives its importance from the following points:

1- The importance of the variables of the research, represented in the factors of the internal environment and organizational excellence.

2- Clarifying the impact of internal environmental factors on organizational excellence.

3- The importance of the results of the correlation and influential relationships between the variables of the study, which will explain the picture to decision makers in public universities in southern Jordan over the most influential and less influential and strongest and weakest correlated parts to provide a clear picture of the aspects that should be given greater attention and given priority.

1.4 Study Questions

To achieve the objectives of this study, the problem stems from the following main question:

What is the level of the dimensions of the internal environment factors on organizational excellence in the public universities in southern Jordan from the point of view of workers?

The sub-questions arising from the main question are as follows:

Question 1: What is the level of respondents' perceptions of the concept of internal environment factors in its dimensions (production processes, human resource management, research and development, management information systems) from the point of view of employees in public universities in southern Jordan?

Question 2: What is the level of respondents' perceptions of the concept of organizational excellence in its dimensions (excellence of leadership, excellence of subordinates) from the point of view of employees in public universities in southern Jordan?

1.5 The Study's Hypotheses

The first main hypothesis: There is no statistical significant impact at the level of significance ($\alpha \leq 0.05$) for the dimensions of internal environment factors (human resource management, research and development, management information systems) on organizational excellence in its dimensions (excellence of leadership, excellence of subordinates) in public universities in southern Jordan.

The following sub-hypotheses emerge:

1- There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal environmental factors, by its dimensions, (human resource management, research and development, management information systems) on the excellence of leadership as one of the dimensions of organizational excellence in the public universities in southern Jordan.

2- There is no statistically significant impact at the significance level ($\alpha \leq 0.05$) of environmental factors, by its dimensions, (human resource management, research and development, management information systems) on the excellence of subordinates as one of the dimensions of organizational excellence in the public universities in southern Jordan.

2. Theoretical Framework and Previous Studies

2.1 The Concept of the Internal Environment

The internal environment means having a detailed look at the organization to determine performance levels , strengths and weaknesses for all the resources it is dealing with now or in the near future. The analysis must be objective in order to give the correct picture of the Organization's real potential, known as strengths and weaknesses. (Barney, 1997)

2.2 Internal Environment Factors

1- Production processes:

Production and operations management is defined as the process of managing the resources required for the production of a commodity or service that the organization provides to the market. Special strategies are concerned with production, response time and delivery. Through these strategies, the organization becomes able to create a strategic position that distinguishes it from competitors. Production strategies are concerned with purchase operations, designing and using machinery and production facilities, as well as production control.

2- Human resources management:

Human resources management in business organizations seeks to improve compatibility and harmony between individuals in jobs or business. The quality of this compatibility affects several critical variables: job performance, employee satisfaction, and workers turnover.

Therefore, Human resources management is interested in selecting and training new employees, evaluating the performance of the employees, providing the possibility of promotion for employees, attracting people and future manpower planning. This management also plays a key role in managing salaries and wages, negotiating with unions, designing work and morale of the employees. This requires that the management be qualified to use trend studies and methods of reviewing the other results to assess the satisfaction of the employees about their work and jobs regarding the work to be done in each job in terms of quality and quantity.

Human resources management must be particularly able to improve the quality of work conditions in the enterprise.

3- Research and development:

The function of continuous development in the activities of the organization is one of the basic and fundamental functions. Its activity relates to the development of knowledge for management and employees, the design of new products and the development and enhancing the existing producing processes in the organization. Therefore, to evaluate this activity, it is necessary to study and analyze the following main fields:

1- The focus of research and development activity, is it applied on theoretical scientific researches or field and applied reasearches?

2- The nature of the relationship between the research and development unit and other functional units in the organizations.

3- The degree of strength of research and development activity in the organization.

4- The expected time range for obtaining results through what this activity does.

5- The role of this activity in creating the competitive advantage of the areas of work of the Organization.

4- Management information systems:

Management information systems are concerned with the design and management of information flow in the enterprise, with the aim of making rational decisions that maximize the organization's wealth, improve its performance and strategic position, facilitate the task of following up on technological developments and adapting to environmental changes.

This system collects, saves, analyzes and places data and information in an integrated information base in a way that helps answer a set of strategic and operational questions. Management information systems can be used for the following purposes: (Murdick, 1980)

1. Establish a base for analyzing primary warning signals that appear internally or externally. Each information system has a database that is used by other departments of the facility.

2. Seek to automate routine office work and to obtain the disclosure of wages and salaries and inventory reports

and other records, thus reducing the need for staff.

3. Assist administrators in making routine decisions. The establishment of a schedule of orders, defining machine orders and the re-ordering of materials are routine tasks that can be automated by conducting a detailed analysis of the flow of work in the organization.

4. Provide the necessary information to make strategic decisions, using computers in analysis process and evaluation of strategic alternatives. This increased the need for decision-support systems to allow greater interaction between computers and users.

2.3 Organizational Excellence

Organizational excellence is defined as the ability of organizations to contribute and strategically compete through excellence in their performance and solving problems, and then achieving their objectives effectively in a distinguish way from other organizations (Al-Dala'ein, 2010).

Excellence in knowledge possessed by individuals is the focus of the work of organizations, which contributes to the organizations' continued excellence over global best practices in performing their functions, knowing capabilities of its competitors as well as external strengths and weaknesses and the surrounding environment (Hassoni, 2010).

Organizational excellence is also defined as: a state of managerial innovation and organizational superiority, achieving high and exceptional levels of performance and implementation of production, marketing, financial and other processes in the organization, and thus gain achievements that outperform competitors, and satisfy customers and all stakeholders in the organization.(An-nsour, 2010).

2.4 Objectives of Organizational Excellence

Organizational excellence is concerned with achieving many objectives in the organizations, the most important of which are:

1. Linking the Organization' strategies at various administrative levels to achieve concrete positive results through outstanding initiatives to raise the level of the organization, and achieve competitive advantage.

2. Contributing to the management of organizational change, and transferring the organizations from their current status to a better and competitive one, characterized by creativity, innovation and excellence.

3. Achieving the objectives of the organizations and drawing up methodological plans for best practices with minimum costs and efforts.

4. Examining ways to implement the methodologies of opportunities for improvement and development, at the level of the organization and at the level of Individuals, through excellence applications.

5. Disseminating best practices, instilling a sense of responsibility in partnership requirements towards society and providing community services.

6. Achieving effective organizational communication in all directions, and between all levels and elements, thus achieving structural compatibility and contributing to improve performance.

7. Improving the mechanisms of solving organizational problems; such as addressing technical problems, and dealing with external and internal crises and challenges which the Organization may face.

8. Creating an environment suitable for innovation and creativity of employees, and improving the quality of work and community lives that activate the role of Organizations in raising the performance of Individuals (Al-Khrasha, Zreiqat and Nour, 2013), (Khairi, 2014).

2.5 Organizational Excellence Dimensions

Most researchers in the management agreed on the existence of several dimensions of organizational excellence. The most prominent are: the excellence of organizational structure, the excellence of the strategy, the excellence of service delivery, the excellence of leadership, the excellence of subordinates and the excellence of organizational culture. (Abdel Wahab, 2016)

The most important dimensions of organizational excellence:

1. Leadership Excellence:

Leadership has a direct impact on excellence, through excellence in leadership skills, effective business relationships and developing individuals' abilities and encouraging them towards creativity and excellence.

There is a group of activities that must be undertaken by leaders to achieve excellence in the organization; such as: decentralized work system which facilitates the flow of information and innovative ideas among workers and leadership without bureaucratic barriers, as well as a deep vision of the problems in one position, and awareness of mistakes, deficiencies and shortcomings, and search for solutions (Al-Buhaisi, 2014) (Abdel Wahab, 2016).

The Concept of Leadership Excellence:

Leadership excellence demonstrates the ability of organizational leaderships to define organizational performance values and expectations, identify short and long-term future directions for the organization, and encourage innovation among employees through vision, mission, objectives, communication and developing organizational performance. (Al-Nuaimi et al, 2010).

2. Excellence of Subordinates:

The subordinates are the source of wealth. They are a combination of characteristics represented in: (abilities, skills, competencies, experiences). Therefore, they are the most valuable sustainable asset, the most important resource for the organization to invest in and the perfect use of these characteristics.

The Concept of Subordinates excellence:

The excellence of subordinates is a practice based on the concepts of intrinsic excellence, development, continuous learning, innovation, participation and responsibility towards society (Jamil and Sfeir, 2011). It demonstrates what the workers have of knowledge, skills, interests, values, attitudes and motivations which result in the effective performance of this employee, in addition to dedication and seriousness in work, the ability to assume responsibility, completion of work on time and the need for supervision and guidance. The employee's knowledge structure is constantly changing as a result of the impact of the processes of education, improvement and development. (Mahmoud, 2014).

Previous Studies

Ben Salem, Sleimani, Douly study (2018) The Effect of Organizational Excellence Methods on Contextual Performance, Bashar Branch, Case Study of the National Fund for Social Security (CASNOS).

The aim of this study was to find the positive relationship between the methods of organizational excellence (training, empowerment, incentives) and contextual performance in general in all of its dimensions within the economic institution.

This study was based on a questionnaire distribution in the institution under study. The study was limited to a sample of social security workers for non-action consisting of 46 workers from different levels of employment. A statistical program represented in (the social statistical package) was used to process the data and analyze the results, and the hypothesis was established that there is a strong relationship between the methods of organizational excellence and contextual performance.

Al-Ghamdi study (2018)" Organizational Excellence of the Leaders of Al-Baha area Schools from the Point of View of Teachers". This study aimed to identify the degree of organizational excellence among the leaders of Al-Baha area schools from the teachers point of view. The researcher used the survey descriptive approach. The community of the study consisted of (4146) teachers and the sample of the study was (345) teachers of Al-Baha area schools. The teachers were selected in a random stratified sample method.

The results showed that the evaluation of the study sample of the degree of organizational excellence among the leaders of Al Baha area schools reached a great degree. The study reached recommendations, among which are the need to encourage school principals to maintain organizational excellence in order to improve the quality of the educational product.

Al-Sarraf, Al-Shalmah study (2018), "Social Responsibility: An Approach to Achieving Organizational Excellence, A Survey Study of the Opinions of a Sample of Employees at Salam Hospital". The study aimed at examining the social responsibility as an approach to achieve organizational excellence. In order to reach the objectives of the research, questionnaires were designed and distributed to employees. The number of questionnaires distributed was (50), and an analytical descriptive approach was adopted in order to select the hypotheses.

The study concluded that there is a correlation and an impact between responsibility and organizational excellence. The results of the analysis showed a difference in the strength of the impact for each dimension of organizational excellence dimensions with social responsibility.

One of the most important recommendations of the study is to maintain good levels of the organizational excellence dimensions of the organization under research, especially the human resource, due to its impact on social responsibility.

Abu-Odeh study (2018) "The impact of quality of career in the achievement of institutional excellence - an applied study on civil society organizations in the Gaza Strip". The study aimed to identify the impact of quality of work in achieving institutional excellence in civil society organizations in the Gaza Strip. To achieve this aim, a questionnaire was developed of (60) paragraph. The researcher used the random stratified sample method and the sample reached (255), distributed to supervisors in civil society organizations. The mathematical averages, Pearson correlation coefficient, multiple regression analysis and mono-variance analysis were used to analyze responses of the sample.

The results revealed that there is a statistically significant relationship between the quality of career and the achievement of institutional excellence in civil society organizations. The study concluded with a number of recommendations, most important is that the civil society organizations should grant the employees the necessary promotions fairly.

Hijazee, Tanbour study (2018) " The Role of Administrative Innovation in the Organizational Excellence of the Palestinian Ministries in the Northern Governorates". This study aimed to identify the role of administrative innovation in the organizational excellence of the Palestinian ministries in the northern governorates. To achieve this, a questionnaire was distributed to (458) workers in the different ministries in the northern governorates. The results indicated that administrative innovation explains (39%) of the organizational excellence. The results also indicated that there are no statistically significant differences in administrative innovation and organizational excellence according to the variables of gender and scientific qualification. The results also found differences between them according to the variables of experience and career position. The researchers recommended the need for administrative innovation as a strategy adopted by different ministries for excellence and quality of performance.

Abu Rahma studay (2017), entitled "The Impact of the Internal Environment Factors of the Organization on the Level of Motivation of Achievement of workers in the Services Sector of the UNRWA". This study aimed at measuring the impact of the internal environment factors of the organization on the level of motivation for achievement among workers in the service sector in the UNRWA. The study community represented UNRWA educated, not-teachers employees who are related to the services sector. (329) questionnaires were distributed. The number of questionnaires recovered was (305) which is (92.7%).

The researcher used the Statistical Package Program (SPSS) and statistical treatment to analyze the data. The study found the most important results, which are: the level of perceptions of the study sample around the axes of internal environment factors was high. There is a significant positive correlation between the factors of the internal environment of the organization and the level of achievement motivation among the workers in the service sector in the UNRWA.

Abdul Samee'e study (2017) entitled "The impact of the internal environment factors of the Organization on the effectiveness of the practice of strategic management applied to the Social Fund for Development (SFD)in Egypt". This study aimed at finding out the reality of strategic management in the SFD, as well as the impact of internal environment factors in the SFD on the effectiveness of the practice of strategic management. The study sample consisted of 85 employees. The study used the descriptive analytical method as a study methodology and the questionnaire as a tool for study. The study reached the following results: the Fund's objectives are inconsistent with the organizational culture prevailing there, and there is a lack of scientific methodology for strategic management.

3. Methodology of the Study

The study adopted the methodology of descriptive, analytical and field research. In the field of descriptive research, a desk survey was conducted to examine theoretical and field studies and researches in order to crystallize the foundations and bases of the theoretical framework and to stand at the most important previous studies, which constitute a vital extension of the study and include knowledge-based axes.

In the field of analytical field research, a comprehensive survey was carried out, and all collected data were analyzed by answering the questionnaires and using the appropriate statistical methods. The study was based on the questionnaire that was developed.

3.1 The Study's Community and Sample

The study community consists of all the heads of the academic departments and the managers of the administrative units in the public universities in the south of the Hashemite Kingdom of Jordan. The number of public universities operating in the south of the Kingdom reached four official universities (Mutah university , Hussein bin Talal university, Tafila Technical university, and University of Jordan-Aqaba Branch). The number of members of the study community was (301) respondents distributed as follows in the public universities in the south of the Kingdom. Table (1) shows the distribution of public universities in southern Jordan. The data were verified by referring to the Personnel Affairs and Statistics of Public Universities (2019), where the researcher conducted a comprehensive survey of the study community.

Table 1. Distribution of public universities in the south of the Hashemite Kingdom of Jordan (study community)

University	Sample respondents	Distributed	Recovered	Valid for analysis	Invalid
Mutah university	146	144	144	140	4
Hussein bin Talal university	82	80	80	77	3
Tafila Technical university	53	50	49	47	2
UJ-Aqaba Branch	20	17	16	15	1
Grand Total	301	291	289	279	10

3.2 The Study Tool

A questionnaire was developed based on the (Likert) scale of five choices ranging from totally agree and totally disagree with a relative weight (5-1). The questionnaire was divided into two main groups, the first concerned with the personal data of the respondents, while the second group is concerned with the subject of the research and includes a group of paragraphs dealing with three main axes of the independent variable of the internal environment in its dimensions (production processes, human resource management, research and development, management information systems). It will also include a number of paragraphs covering the dependent variable of the organizational excellence in its dimensions (excellence of leadership, excellence of subordinates).

3.3 The Veracity of the Tool

The questionnaire was presented to a number of arbitrators of teaching staff at the universities to ascertain the veracity of the questionnaire paragraphs. Their notes were taken into consideration, some paragraphs were reworded, and the required modifications were made to balance the contents of the questionnaire with their paragraphs.

3.4 Stability of the Tool

The internal consistency coefficient of the study instrument was extracted using the (Cronbach's Alpha) coefficient for each of the variables of the study in all their dimensions. The values of the stability coefficient were high and indicated the stability and consistency between the paragraphs of the tool.

Table (2) shows the values of the stability coefficient.

Table 2. The coefficient of internal consistency of each variable of the study in all its dimensions

Variable	Dimension	Paragraphs	Cronbach's Alpha
Independent Variable	Human Resources Management	5-1	0.790
(Internal Environmental Factors)	Research and Development	6-9	0.745
	Management information systems	10-14	0.826
Dependent Variable	Leadership Excellence	15-19	0.835
(Organizational Excellence)	Subordinates Excellence	20-25	0.875

The data in Table (2) shows that the coefficients of dimensional stability of the internal environment variable ranged from (0.745 to 0.826). As for organizational excellence, stability coefficients ranged from (0.835 to 0.875), and these values are acceptable for the objectives of the current study.

3.5 Statistical Processing

To answer the questions of the study and to test the validity of its hypotheses, descriptive and analytical statistical methods were used, using the statistical package (SPSS.16). The statistical methods used were as follows:

The Descriptive Statistic Measures was used to describe the characteristics of the study sample based on frequency and percentages. The Variance Inflation Factory (VIF) and (Tolerance) Test were used to ensure that there was no high correlation (Multicollinarity) between independent variables. The (Skewness) test was used to ensure that the data follows (Normal Distributions). The (Multiple Regression Analysis) was used to test the validity of the study models and the effect of the independent variable and its dimensions on the dependent variable and its dimensions. The (Stepwise Multiple Regression Analysis) was used to test the entry of independent variables in the dependent variable prediction equation.

3.6 Results

Before the applying the regression analysis to test the hypothesis of the study, some tests were carried out in order to ensure the adequacy of the data for the regression analysis hypotheses. It was ascertained that there is no high correlation between the independent variables (Multicollinarity) using (Variance Inflation Factory)(VIF) and (Tolerance) test for each variable of the study variables, taking into consideration that the VIF does not exceed the value(10) and the value of (Tolerance) is greater than (0.05). It was also ascertained that the data followed the (Normal Distribution) by calculating the (Skewness) coefficient, observing that the data follows the Normal distribution if the Skewness coefficient value is close to (0). Table (3) shows the results of these tests.

Table 3. VIF coefficient, Tolerance and Skewness tests

Independent Variables	VIF	Tolerance	Skewness
Human Resources Management	3.024	0.460	-0.337
Research and Development	2.051	0.390	-0.463
Management information systems	1.555	0.643	-0.625

It was noticed that the VIF values for all dimensions of the independent variable were less than (10) and ranged from (1.555 to 3.024). The Tolerance values ranged from (0.390 to 0.643), and this is an indicator that there is no high correlation (Multicollinarity) between the dimensions of the independent variable. It was ascertained that the data followed the normal distribution, by calculating the (Skewness) coefficient where the values were less than (1). The validity of the model was also validated to test the hypotheses of the study.

The main first hypothesis: There is no statistically significant impact at the level of significance of ($\alpha \leq 0.05$) of the dimensions of the internal environment (Human Resource Management, Research and Development, Management Information Systems) on organizational excellence in its dimensions (excellence of leadership, excellence of subordinates) in public universities in southern Jordan.

Table 4. Results of multiple regression analysis to test the impact of the internal environment with its different dimensions on organizational excellence

Internal Environment Dimensions	B	Standard error	Beta	t value	Statistical Significance
Human Resources Management	0.246	0.081	0.178	3.034	*0.003
Research and Development	0.268	0.064	0.238	4.320	*0.000
Management information systems	0.120	0.069	0.091	1.682	0.093

* significant at significance level of ($\alpha \leq 0.05$)

The statistical results in Table (4), following-up on beta coefficients and testing (t) indicate that the following sub-variables related to (human resource management, Research and development) are the most important dimensions of the internal environment affecting organizational excellence, in terms of the beta coefficients for these variables as shown in the table and in terms of the increase in the calculated values of (t) from their tabular value at the level of significance ($\alpha \leq 0.05$).

The results indicated that the sub-variable (Management Information Systems) has no effect on organizational excellence in terms of the calculated value (t) and the associated significance level at the level of significance ($\alpha \leq 0.05$). So, the main hypothesis is partially rejected, which states that there is no statistically significant effect at the level of ($\alpha \leq 0.05$) of the dimensions of the internal environment (human resource management, research and development, management information systems) on organizational excellence in its dimensions (Excellence of Leadership, Excellence of Subordinates) in public universities in southern Jordan.

The Stepwise Multiple Regression analysis was conducted by the researcher to determine the importance of each independent variable in contributing to the mathematical model, which represents the effect of internal environment factors (production processes, human resource management, Research and Development, Management Information Systems) on organizational excellence in public universities in southern Jordan. Table (5) shows the results of this.

Table 5. Results of Stepwise Multiple Regression analysis to predict organizational excellence through the dimensions of the internal environment

The order of entry of independent variables in the prediction equation	R2 value	Calculated t value	t significance level
Human Resources Management	0.217	9.79	*0.000
Research and Development	0.256	5.10	*0.000

* significant at significance level of ($\alpha \leq 0.05$)

(Management Information Systems) is out of the regression equation

Table (5) shows the order of entry of independent variables in the regression equation. Human resources management ranked first and interpreted (21.7%) of the variance in the dependent variable, followed by the

Research and development variable and explained with the Human Resources Management variable (25.6%) of the variance in the dependent variable, as the management Information Systems were out of the regression equation.

The first sub-hypothesis: There is no statistically significant effect at the significance level of (α≤0.05) of the internal environment in its dimensions (human resource management, research and development, management information systems) on the excellence of leadership as one of the dimensions of organizational excellence in the public universities in southern Jordan.

Table 6. The results of multiple regression analysis to test the effect of independent variable dimensions (internal environment) on the dimension (leadership excellence) as one of the dimensions of organizational excellence

Dependent Variable	**B**	**Standard error**	**Beta**	**T calculated value**	**T Significance level**
Human Resources Management	0.255	0.092	0.168	2.783	*0.006
Research and Development	0.190	0.069	0.156	2.752	*0.006
Management information systems	0.246	0.074	0.183	3.342	*0.001

* significant at significance level of (α≤0.05)

From the statistical results in Table (6),and from following-up on the (Beta) coefficient as well as the (t) test, it is clear that the following sub-variables (human resource management, research and development, Management information systems) have an impact on the (leadership excellence) dimension as one of the dimensions of organizational excellence, in terms of the (Beta) coefficients of these variables as shown in the table, and in terms of the increase in the calculated values of (t) from its tabular value at the significance level of (α≤0.05).

As a result, the first sub-hypothesis is rejected, which states that there is no statistically significant effect at the significance level of (α≤0.05) of the internal environment in its dimensions (human resource management, research and development, management information systems) on the excellence of leadership as one of the dimensions of organizational excellence in the public universities in southern Jordan.

The researcher also carried out the Stepwise Multiple Regression analysis to determine the importance of each independent variable in contributing to the mathematical model, which represents the effect of the internal environment in its dimensions (human resources management, research and development, Management Information systems) on the excellence of leadership as one of the dimensions of organizational excellence in public universities in southern Jordan, and Table (7) shows the results of that.

Table 7. Results of Stepwise Multiple Regression analysis to predict leadership excellence as a dimension of organizational excellence through internal environment factors

The order of entry of independent variables in the prediction equation	**R2 Value Coefficient of cumulative selection**	**Calculated t value**	**t significance level**
Human Resources Management	0.156	8.75	*0.00
Research and Development	0.223	4.71	*0.00
Management Information Systems	0.253	2.26	*0.024

* significant at significance level of (α≤0.05)

Table (7) shows the order of entry of independent variables in the regression equation. Human resources management ranked first and explained (15.6%) of the variance in the dependent variable, followed by the Research and development variable and explained with the variable of the production processes (22.3%) of the variance in the dependent variable, and finally entered the Management Information Systems and explained with the previous variables (25.3%).

The Second Sub-Hypothesis: There is no statistically significant effect at the level significance of (α≤0.05) of the internal environment in its dimensions (human resource management, research and development, management information systems) in the excellence of subordinates as one of the dimensions of organizational excellence in the public universities in southern Jordan.

Table 8. The results of multiple regression analysis to test the effect of independent variable dimensions (internal environment factors) on the excellence of subordinates as one of the dimensions of organizational excellence

Dependent Variable	**B**	**Standard error**	**Beta**	**T calculated value**	**T Significance level**
Human Resources Management	0.257	0.101	0.131	3.105	*0.036
Research and Development	0.285	0.076	0.201	4.445	*0.001
Management information systems	0.130	0.086	0.095	1.649	0.100

* significant at significance level of (α≤0.05)

The statistical results in Table (8), following -up on of (Beta) coefficients and (t) test show that the following sub-variables related to (human resource management, Research and Development) have an impact on the (subordinate excellence dimension) as a dimension of the organizational excellence, in terms of the (Beta) coefficients of these variables, as shown in the table, and in terms of the increase in the calculated values of (t) from its tabular value at the level of ($\alpha \leq 0.05$).

The results also show that there is no impact of Management Information Systems on predicting the dimension of subordinates excellence as a dimension of organizational excellence.

Therefore, the second sub-hypothesis, which states that there is no statistically significant effect at the level of significance of ($\alpha \leq 0.05$) of the internal environment in its dimensions (human resource management, research and development, Management Information Systems) on the subordinates excellence as a dimension of Organizational Excellence, is partially rejected.

The researcher also conducted the stepwise multiple regression analysis to determine the importance of each independent variable in contributing to the mathematical model, which represents the effect of the internal environment (Human resources management, Research and development, Management Information Systems) on the dimension of (subordinates excellence) as a dimension of the Organizational excellence in the public universities in southern Jordan. Table (9) shows the results of this.

Table 9. Results of Stepwise Multiple Regression Analysis to predict the dimension of subordinates excellence as a dimension of organizational excellence through internal environmental factors

The order of entry of independent variables in the prediction equation	**R2 Value Coefficient of cumulative selection**	**Calculated t value**	**t significance level**
Human Resources Management	0.152	8.61	*0.00
Research and Development	0.195	5.27	*0.00

* significant at significance level of ($\alpha \leq 0.05$)

- (Management of Information Systems) is out of the Regression Equation

Table (9) shows the order of entry of the independent variables in the regression equation. Human resources management ranked first and explained (15.2%) of the variance in the dependent variable, followed by the Research and development variable and explained with the variable of production processes (19.5%) of the variance in the dependent variable. The Management Information Systems variable is out of the regression equation.

4. The Results

1. The results indicated that the perceptions of the members of the study sample of the internal environment factors in the public universities in the south of the Hashemite Kingdom of Jordan came, on the overall level, at a medium degree.

2. The results indicated that the perceptions of the members of the study sample of the dimensions of organizational excellence in the public universities in the south of Jordan are of a medium, overall level

3. The results showed the following independent variables are related to (human resource management, research and development) . The (human resources management) dimension ranked first in terms of the calculated value of (t), followed by (research and development) dimension of the variance of the organizational excellence in the second place.

In addition, the results indicate that there is no statistically significant effect of the (management information systems) dimension on organizational excellence in the public universities in the south of the Kingdom. Consequently, the main hypothesis is partially rejected regarding the Management information systems in terms of the (t) calculated value.

4. The results showed that the following variables related to the dimensions of the internal environment factors (human resource management, research and development, management information systems) have an effect on the excellence of leadership as one of the dimensions of organizational excellence in the public universities in the south of the Kingdom. (Human Resources Management) ranked first, followed by (Research and Development), followed by (Management Information Systems) in third place in the variance of the dependent variable(Leadership Excellence).

5. The results showed that the following variables related to the dimensions of internal environment factors (human resource management, research and development) have an effect on the excellence of subordinates as

one of the dimensions of organizational excellence in the public universities in the south of the Kingdom. (Human resources management) ranked first, followed by (research and development) in the second place. The (management information systems) came out of the equation, therefore, the hypothesis was partially rejected because the calculated value of (t) was (1.649).

5. Recommendations

1. Enhancing attention to analyzing the internal environment in order to identify strengths and weaknesses and overcome them, identify and boost strengths, and benefit from them in achieving organizational excellence.

2. The need to increase the volume of expenditure on research and development activities, where spending on these activities represents investment spending.

3. Developing fact-based management methods as well as developing information systems and decision-support.

4. Pay attention to developing the capabilities of the staff and training them according to studied scientific programs.

5. The necessity of creating the working environment and its factors and the appropriate conditions that increase the organizational excellence.

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Impact of Job Clarity on Nurses' Job Satisfaction: A Moderating Role of Fairness Perception

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Abstract

The main objective of this study was to ascertain the impact of job clarity on nurses' job satisfaction in the public hospitals of Sindh province of Pakistan. The results presented a valid and reliable measurement model so that a structural model could be built upon it for testing research hypotheses. Results indicate that job clarity has an insignificant impact on job satisfaction among nurses in Pakistan. Moreover, the fairness perception does not moderate; rather, it is found to be a strong predictor of nurses' job satisfaction. In other words, people have a lack of clarity about tasks, roles, and responsibilities, often end up affecting their outcomes. Therefore, it is recommended to strengthen the element of fairness in jobs to boost job satisfaction. HR policies and general policy makers in the organization have a greater role in this regards to ensure that the work and task are divided on fair grounds and so the rewards.

Keywords: job clarity, fairness perception, job satisfaction, Pakistan

1. Introduction

Nowadays healthcare system plays a vital role in the development and strengthening of the nation`s wellbeing across the globe (Swayne, Duncan, & Ginter, 2012). The healthcare sector not only serves the basic needs but also provides opportunities for economic expansion (Mahmud & Parkhurst, 2007). According to the Deloitte recent annual report, the global healthcare sector is becoming increasingly competitive where there is a growing need for a committed workforce (Deloitte, 2015). Along with this, job clarity is also a very important and crucial factor while predicting job satisfaction. According to Zeffane and Al-Zarooni (2008) job clarity is how individuals can clearly outline their job roles, expectations and responsibilities in the organization. Job clarity denotes to how employees have been communicated and guided towards the assigned responsibilities and what is expected from them in return (Jansen, Kerkstra, Abu-Saad, & Van Der Zee, 1996).

According to the World Bank database (2016), Pakistan ranks 6th in the world in terms of population and is listed amongst the under-developing economies. With a population of more than 191 millions, the nation is striving yet struggling in providing basic services and facilities to its people including healthcare, education, food, and security. Especially when it comes to health services, the majority of the population has no access to basic health facilities (Bhatti, Islam, Mirza, & Hadi, 2015). In Pakistan, the health care sector is expanding since the last decade. The healthcare sector comprises both public and private sector hospitals whereby, there are around 1,142 hospitals, 5,499 dispensaries, 5,483 basic health units as per government report (Pakistan Economic Survey, 2015-16). According to the recent report, there are 90,276 registered nurses (Pakistan Economic Survey 2016-17) across the country which results in 1:2104 ratios with the total population (Bhatti et al., 2015). A study by Khaliq, Rehman, and Rashid (2011) argued that nearly 42 percent of the nurses were not satisfied with their jobs in Pakistan. The issue is more severe in public sector hospitals due to no job clarity (Kumar, Ahmed, Shaikh, Hafeez, & Hafeez, 2013; Bushra, Usman, & Naveed, 2011). In Pakistan, the nursing staff has a lot of responsibilities during their job. Sometimes the nurses have to give extra time or late duties as well. They are totally responsible for the health of their patients after the patients come from some surgery or after a doctor's treatment. Sometimes, nurses have responsibilities even more than doctors' responsibilities because their job role and job description is not clear. Their seniors ask them to stay ready for any type of task which is assigned to them during their duty time. This is one of the reasons which make them unsatisfied with their job. Therefore, job clarity is very important in every field and even in the field of nurses too for leading towards job satisfaction.

The aim of this study is examining the role of job clarity in nurses' job satisfaction with the moderating effect of fairness perception. Taken together, to bridge the aforementioned theoretical and practical gaps, a quantitative study is needed to analyze the impact of job clarity on the nurses' job satisfaction in the public hospitals of Pakistan. This study also attempts to investigate whether fairness perception moderates the relationship between job clarity and nurses' job satisfaction. The remaining part of the study consists of the following sections. Section 2 explains the literature review about the job clarity and job satisfaction. Section 3 describes the methodology. Section 4 clarifies the data analysis and discussion section, and section 5 presents the conclusions and policy recommendations.

2. Literature Review

Different features of representative job satisfaction have been investigated with the help of various examinations, illustrations, and observations by the the scholars. Previous empirical findings recommend that organizational work attributes such as job clarity, job autonomy, and other factors possess a considerable role in the development job satisfaction amongst the workforce (Konovsky & Cropanzano, 1991; Wright & Davis 2003; Chen, Gully, Eden, 2001; Boyt et al, 2001; Chu, Hsu, Price & Lee, 2003; Chang, Li, Wu, Wang, 2010). Therefore, prominent researchers in the area have been critically appraised in the present study. These authors have reported that job clarity is essential prospects to boost job satisfaction. In the domain of job satisfaction, organizational factors possess significant value and importance which is why, a majority of the studies have attempted to underline how factors in this category can be of prominence for businesses across different occupational settings (Boyt et al, 2001).

Job clarity represents the degree to which required details are clear about the job and how the employee/worker needs to perform his/her job in a way that enhances efficiency and avoid wasting of time (Teas, Wacker, & Hughes, 1979). In the same context, Kelly and Hise (1980) described job clarity that individual employee receives details and understanding about the job clarifying what they are expected to do and what they are not. Kim (2009) stated that job clarity is when tasks and expectations of the job are made clear to the employee. Job clarity was described as an understanding of the following role components: (a) goals of role efficiency, (b) attitude and behavior necessary for goal accomplishment, (c) role limitations, and (d) behavior predicted by those in roles counters (Meleis, 1975; Meleis & Swendsen, 1978). Job clarity is defined as an understanding of job requirements and come up with performance fulfill job requirements as individually (Brief, Schuler & Van Sell, 1981). Previous literature indicated that a high level of job clarity increases job satisfaction resulting in employees' loyalty and trustworthiness with the organization (Zeffane and Al Zarooni, 2008). Role clarity is an important factor to enhance the employee's job performance (Locke & Latham, 2002). Role clarity reduces the unambiguity of employees and also decreases the risk of mistake during working (Ting, 1997). Furthermore, job clarity helps the employee to understand the job role.

On the other hand, lack of role clarity increases the job dissatisfaction and decreases performance (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Kelly & Hise, 1980). Due to lack of clarifications, the negative impact on the job ultimately affects the employee job satisfaction negatively. In the service sector, job clarity provides a chance to service providers to deliver services in a quick and better manner to their customers (Suan, & Nasurdin, 2013). Terje, Göran, and Sander (2011) also defined when a service employee having a lack of role clarity its negative impact on the outputs are likely to happen such as involved employees may offer incorrect information, which leads to the inadequate services to the customers.

Particularly, job clarity is important for employees who are performance and satisfaction focused. According to Terje et al., (2011) job clarity is also significant in the services sector. Furthermore, indicated that a high level of role clarity brings confidence in the employees to perform better and meet the requirements of the customers. Therefore, when an employees' role is clear on what they are expected to do in their job, they are more likely to look with a positive mindset towards their work and show greater zeal to provide services to their customers (Suan, & Nasurdin, 2013). Hence, an employee with a high level of role clarity is expected to deliver high-quality service to customers.

According to Troyer, Mueller, and Osinsky (2000) a higher level of job clarity, reduced the level of issues at job time. Bray and Brawley, (2002) outlined that clear role of employee motivated them to work beyond the expectation of the organization. In United Empire hospital nursing staff, Blumenthal, Lavender, & Hewson (1998) Found that reduced job clarity results in unwanted effects for both company members and for organizational efficiency. Though more common in literature, there are limited positive effects of job clarity on efficiency (Singh, 1993). In fact, some studies have even shown a negative relationship between job clarity and purpose, and subjective measure of service quality (Wetzels, De Ruyter, & Bloemer, 2000), showing that a limited amount of role ambiguity always gave the result of increased and better performance (Lyons, 1971).

Locke and Latham (2002) have underlined that job clarity provides clear outlines as to what is expected thus, resulting in employees` satisfaction with the job. Notably, Zeffane and Al-Zarooni (2008) have related it with organizational structuring whereby employee functions and expectations are rooted and mapped. Accordingly, Adams and Bond (2000) studied nurses and their job clarity and found that clarity concerns are critical for them to perform in a better manner and job satisfaction. Further exploration of the literature on job clarity has underlined inconsistent findings for the construct. According to Kroposki et al., (1999), there are job clarity is correlated with employee job satisfaction whereby, Smerek and Peterson (2007) outlined that job clarity is not correlated with job satisfaction. According to Kroposki et al. (1999) that role ambiguity and lack of information about the job which negatively influences job satisfaction. A study conducted by Smerek and Peterson (2007) that staff found insignificance relationship between job clarity and employees job satisfaction. Thus, the previous literature has varying outcomes about the relationship of job clarity and employee job satisfaction.

Based on the above literature, it is clear that job clarity is very essential for analyzing the impact on job satisfaction among nurses. The contrasting results (Tumulty, et al., 1994; Kroposki et al., 1999; Adams & Bond, 2000; Smerek and Peterson, 2007) job clarity will be moderated in their relationship with nurses` job satisfaction. Hence, the current study proposes that the relationship between job clarity will be moderated in their relationship with nurses` job satisfaction. Therefore, the current literature concludes the following proposed research model and hypotheses which are as follows.

H1: Job Clarity is positively related to nurses` Job satisfaction

H2: Fairness perception moderates the relationship between Job clarity and Job satisfaction

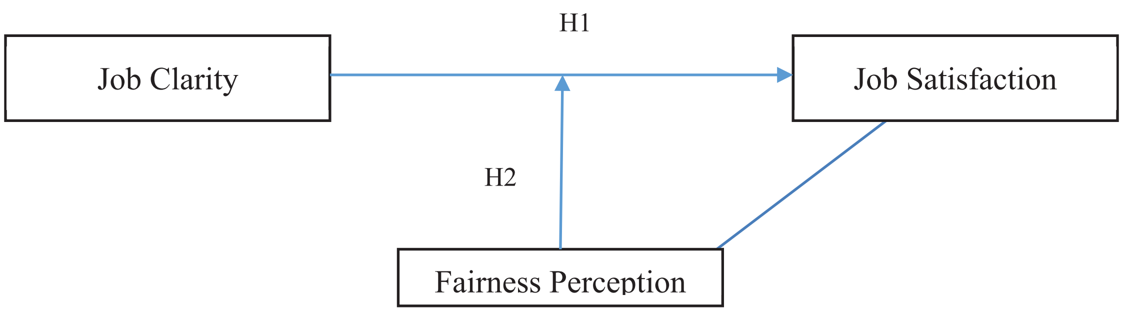

Figure 1. Conceptual Framework

3. Methodology

A sample consisting of 325 questionnaires gathered from the different parts of the Sindh province of Pakistan is used in this study. The data were collected during the span of 12 months from January 2015 to December 2015) through a survey transcribed in English. After the data screening, eleven items were removed on the basis of missing values. In addition, twenty one uni-variate outliers were identified and removed from the dataset. To identify the multivariate outliers, we applied the Mahalanobis distance critical Chi-square function at $p<0.001$. We found thirteen multivariate outliers on this criterion. Therefore, after excluding 45 invalid responses, the final sample of 280 valid responses was used. The current study deployed a cluster sampling technique. The target population was segregated into groups based on areas and clusters (Kothari, 2004). Out of those clusters, a simple random sample from the groups was selected to respond. This was because the researcher attempted to gather the data on the number of nurses working in each hospital of Sindh province. Our sample includes all the public sector hospitals located in the province of Sindh, Pakistan. This is due to the fact that the researcher tried to acquire the data regarding the number of nurses working in each hospital of Sindh province. The current study covered all the public hospitals, located in Sindh Pakistan. Researcher requested the complete lists of nurses serving in the 43 public hospitals for conducting surveys. Notably, Sindh Health department and Health Ministry of Pakistan are the only government regulatory authorities for hospitals in the country but failed to give the complete details in this regard. In fact, the list was not available for two reasons. Firstly, the document was not updated, thus it could have provided inappropriate information about the number of doctors in each hospital of Sindh. The conclusions drawn in the present study are unbiased. We followed the guidelines of Dillman (1978) in fulfilling ethical standards. The present study has no biases in attaining any conclusion. The research followed the directions of Dillman (1978) in fulfilling ethical measures. The credentials of the respondents are taken care of with attention and are not biased in any way. Finally, the study is not financed by any public or private organization.

4. Data Analysis & Discussion

4.1 Descriptive Analysis

For a coherent discussion and rational explanation of the results and findings, it is important to have a clear understanding of the respondent‘s profile which is presented in Table 1 in this study. This study collected responses from both male and female nurses working in the public hospital of Sindh. There were 146 (52.1 percent) male respondents and 134 (47.9 percent) female respondents. In addition, 90.7 percent respondents were less than 40 years of age and 63.6 percent had attended high school; only 20 respondents were having a nursing diploma, however, 72 (25 percent) respondents were also holding a postgraduate qualification. Moreover, 86 respondents (30.7 percent) possessed less than or up to five years of work experience; 112 respondents (40 percent) between 6 and 10 years; however, the sample included only 19 respondents (6.8 percent) held work experience between 16 and 20 years.

Table 1. Descriptive Statistics

Demography	Indicator	Frequency	Percent	Cumulative Percent
Gender	Male	146	52.1	52.1
	Female	134	47.9	100.0
Age	Below 30 Years	175	62.5	62.5
	30-40 Years	79	28.2	90.7
	41-50 Years	22	7.9	98.6
	51-60 Years	4	1.4	100.0
Qualification	High School	178	63.6	63.6
	Nursing Diploma	20	7.1	70.7
	Undergraduate Degree	10	3.6	74.3
	Postgraduate Degree	72	25.7	100.0
Experience	1-5 Years	86	30.7	30.7
	6-10 Years	112	40.0	70.7
	11-15 Years	63	22.5	93.2
	16-20 Years	19	6.8	100.0

The measurement model was developed to determine the convergent validity, discriminant validity and construct reliability of the three latent constructs i.e. fairness perception, job clarity, and job satisfaction. The convergent validity and construct reliability were estimated by using average variance extracted (AVE) and composite reliability (CR). Whereas, the discriminant validity between the six latent variables was estimated by using two widely-used methods i.e. Fornell-Larcker and Heterotrait-Monotrait Ratio (HTMT) matrices. Table 2 also shows that the AVE of each of the five constructs is greater than 0.50 showing a good convergent validity (Hair et al., 2010). Furthermore, as shown in this table, the CR value is greater than 0.70 which shows good construct reliability (Hair et al., 2011; Hair et al., 2012; Sharif & Bukhari, 2014; Arif et al. 22016; Afshan & Sharif, 2016; Sharif & Raza, 2017; Afshan et al. 2018). Moreover, in Table 3, the square root of AVE of each latent construct (which is shown in boldface on diagonal) is also greater than its inter-construct correlations showing the evidence of discriminant validity by using Fornell-Larcker criterion (Fornell & Larcker, 1981; Molina et al. 2007).

Table 2. Factor Loading, Cronbach Alpha, Composite Reliability and Average Variance Extracted

Construct	Item	Loading	Alpha	CR	AVE
Fairness Perception	FP1	0.983	0.954	0.966	0.853
	FP2	0.721			
	FP3	0.949			
	FP4	0.983			
	FP5	0.955			
Job Clarity	JC1	0.997	0.993	0.997	0.993
	JC2	0.997			
Job Satisfaction	JS1	0.882	0.983	0.985	0.833
	JS2	0.944			
	JS3	0.931			
	JS4	0.87			
	JS5	0.934			
	JS6	0.941			
	JS7	0.941			
	JS8	0.944			
	JS9	0.915			
	JS10	0.929			
	JS11	0.798			
	JS12	0.943			
	JS13	0.882			

Note. CR= Composite Reliability, AVE = Average variance extracted

To further confirm the discriminant validity, we used another method i.e. Heterotrait-Monotrait Ratio (HTMT) matrix (see Table 4) in SmartPLS 3.0. Ramayah, Cheah, Chuah, Ting, & Memon (2016) stated "HTMT refers to the ratio of correlations within the constructs to correlations between the constructs… an estimate of what the true correlation between two constructs would be if they are perfectly measured…" (p. 62), using a more stringent criterion i.e. HTMT0.85 (Henseler, Ringle, & Sarstedt, 2015; Kline, 2011).

Table 3. Discriminant Validity Analysis (Using Fornell-Larcker Criterion)

	FP	JC	JS
FP	**0.924**		
JC	0.569	**0.997**	
JS	0.672	0.409	**0.913**

Note. FP= Fairness Perception, JC = Job Clarity, JS = Job Satisfaction

Table 4 shows that all HTMT values are less than 0.85 except 0.874 (HTMT ratio between FP and WA) which also meets HTMT0.90 threshold value (Gold, Malhotra, & Segars, 2001; Henseler et al., 2015; Qureshi, 2015; Ahmed et al. 2017; Nadeem et al 2016; Adil & Qureshi, 2016). Thus, it leads the author to conclude that the discriminant validity was established between the five constructs of this study using both Fornell-Larcker criterion and HTMT ratio methods.

Table 4. Discriminant Validity Analysis (Using HTMT Ration)

	FP	JC	JS
FP			
JC	0.585		
JS	0.694	0.413	

Note. FP= Fairness Perception, JC = Job Clarity, JS = Job Satisfaction

Table 5 provides a complete account of hypothesis testing. This table shows fairness perception has a statistically significant and positive impact on job satisfaction (0.492; p = 0.000). However, job clarity has been found statistically insignificant to predict job satisfaction (0.029; p = 0.249). In total, these two exogenous variables predict over 46 percent of the total variance in job satisfaction (R^2 = 0.46) which may be considered as 'substantial' predictive accuracy of the structural model (Cohen, 1988). Also, the moderating effect of fairness perception is also insignificant on job satisfaction (-0.069; p=0.214).

Table 5. Hypothesis testing using VB-SEM

Predictors	Estimate	SE	T-Value	Sig
FP	0.492	0.078	6.270	0.000
JC	0.029	0.043	0.678	0.249
JCxFP	-0.069	0.087	0.794	0.214
Adj. R^2		0.46		

Note. Exogenous Variable = Job Satisfaction

5. Conclusion & Policy Implication

The main objective of this study was to ascertain the impact of job clarity on nurses' job satisfaction in the public hospitals of Sindh province of Pakistan. The results presented a valid and reliable measurement model so that a structural model could be built upon it for testing research hypotheses. Results indicate that job clarity has an insignificant impact on job satisfaction among nurses in Pakistan. Moreover, fairness perception does not moderate rather, it is found to be a strong predictor of nurses' job satisfaction. In other words, people who have a lack of clarity about tasks, roles, and responsibilities often end up affecting their outcomes. Clarity in the assigned role is essential to ensure that the individual is capable of achieving what he/she is destined for. In a similar manner, job clarity is crucial for employees to foster their work understanding and hence, express satisfaction with the job (Kroposki et al., 1991). In the views of Donnelly (1975), job clarity is important to help employees perform at the best of their capabilities. Without clear roles and responsibilities, an organization cannot simply expect its employees to showcase positive behaviors and outcomes (Kim, 2009). Based on the evidence from prior studies, suggesting that job clarity factor is significantly in correlation with employees job satisfaction (Kim, 2009; Reid et al., 2008), this assertion was taken forward to examine how this association results amongst nurses in public sector hospitals in Sindh, Pakistan. Keeping these theoretical evidence beforehand, the present study attempted to test job clarity and job satisfaction. The PLS path modeling approach found job clarity as a statistically insignificant predictor of nurses' job satisfaction. This might be attributed to the fact that there is a shortage of nurses in the healthcare sector of Pakistan and people who choose nursing as their profession tend to understand that they need to work hard to stay on their nursing job. Consequently, in light of the present scenario in Pakistan, male and female nurses are compelled to work as per the directions of hospital management. Besides, data were collected from the public hospitals where a large number of nurses' appointments are made based on political connections or even a phone call from a senior government official, leader of a political party, or bureaucrat. It results in nurses are least bothered about the job clarity. They tend to find their job satisfaction in other extrinsic motivators. Sometimes, the lack of clear information about job tasks results in role ambiguity that may have an undesirable impact on employee job satisfaction (Kroposki, et al., 1999).

The finding underlines the need for medical institutes to ensure that they allocate work evenly and so the reward across their workforce. Particularly for nurses, the present study has outlined that they valued fairness perception and through it, strengthened usage of job clarity features to boost job satisfaction. HR policies and general policy makers in the organization have a greater role in this regards (Weaver & Trevina, 2001) to ensure that the work is divided on fair grounds and so the rewards. The finding is crucial learning for top management and people in key authorities regarding how fairness perceptions can be strategically used as an important work factor to positively enhance employee behaviors and outcomes. There are far greater benefits of fairness perceptions that organizations need to unveil (Choi & Mattila, 2005) in order to ensure the strategic achievement of both individual and organizational objectives.

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