STRATEGIC IMPROVISATION, ENTREPRENEURIAL SELF-EFFICACY AND PERFORMANCE: THE ROLE OF CORPORATE ENTREPRENEURSHIP AND ORGANISATIONAL CULTURE

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ABSTRACT

Global competition, dynamic environment and shrinking resource have created a lot of pressure on today's organisations including Higher Education Institutions (HEIs). Hence, the need for effective human resource that is capable of not only ensuring efficient utilization of resource but also responding to rapid dynamism of today's environment to enhance HEIs performance and relevance. Previous studies mainly concentrate on top management aspect of ensuring HEIs turn around, neglecting middle and lower level managers. Drawing from Resource Base Theory (RBV) and Social Cognitive Theory (SCT), the study examines the indirect role of corporate entrepreneurship (CE) and organisational culture (OC) on the relationship between leaders' strategic improvisation (SI), entrepreneurial self-efficacy (ESE) and performance. Data was generated from 229 academic leaders from ten HEIs in Kano, which was analysed using PLS-SEM version 3.0. The findings of the direct relationship between SI, CE and performance were supported, while that of ESE reported an insignificant relationship, hence, rejected. Similarly, the result also indicates that CE depends on SI and ESE behaviour of academic leaders in HEIs. As postulated the mediating role of CE on SI, ESE and performance relationship was also established in the study. However, the moderating role of OC on the relationship between SI and performance and ESE and performance is not significantly established. The use leaders' SI, ESE, CE which are mainly use in private settings to explain performance is a novel contribution to knowledge and HEIs management. The finding is a wakeup call for HEIs management to identify and appreciate these factors in the study in order for them to plays the needed role for national development. Future studies should include more samples, also use organisation as unit of analysis. The debate about the hierarchical level at which the strategic and entrepreneurial behaviour of managers is most beneficial is also another avenue for future studies.

Keywords: Strategic improvisation, Entrepreneurial self-efficacy, performance, Corporate entrepreneurship, Organisational culture.

ABSTRAK

Persaingan peringkat global, persekitaran dinamik dan sumber-sumber yang menyusut telah memberikan banyak tekanan kepada organisasi-organisasi hari ini termasuklah Institusi-institusi Pendidikan Tinggi (IPT). Justeru, sumber manusia yang efektif diperlukan yang bukan sahaja berupaya untuk menentukan penggunaan sumber yang efisien tetapi juga bertindak balas kepada persekitaran semasa yang amat dinamik bagi meningkatkan prestasi dan keutuhan IPT. Kebanyakan kajian lepas menumpukan kepada aspek pengurusan atasan bagi membaik pulih IPT serta mengabaikan pengurus-pengurus peringkat pertengahan dan bawahan. Di samping itu, kajian telah mencadangkan penggunaan kedua-dua ciri-ciri individu dan organisasi untuk menerangkan prestasi organisasi. Kajian ini berpandukan Teori Asas Sumber dan Teori Kognitif Sosial yang meneliti peranan tidak langsung keusahawanan korporat dan budaya organisasi ke atas hubungan-hubungan di antara improvisasi strategik pemimpin, efikasi kendiri keusahawanan, dan prestasi IPT. Data diperoleh daripada 229 orang pemimpin akademik di sepuluh buah IPT di Kano, dan dianalisis menggunakan PLS-SEM versi 3.0. Dapatan kajian menunjukkan hubungan-hubungan langsung di antara improvisasi strategik, keusahawanan korporat, dan prestasi IPT disokong. Namun, efikasi kendiri keusahawanan melaporkan hubungan yang tidak signifikan. Dapatan juga menunjukkan bahawa keusahawanan korporat bergantung kepada gelagat improvisasi strategik dan efikasi kendiri keusahawanan pemimpin-pemimpin akademik dalam IPT. Selain itu, peranan pengantara keusahawanan korporat dalam hubungan-hubungan di antara improvisasi strategik, efikasi kendiri keusahawanan dan prestasi IPT telah ditentukan dalam kajian ini. Walau bagaimanapun peranan budaya organisasi sebagai penyederhana dalam hubungan-hubungan di antara improvisasi strategik dengan prestasi IPT dan di antara efikasi kendiri keusahawanan dengan prestasi IPT didapati tidak signifikan. Penggunaan ciri-ciri individu khususnya improvisasi strategik dan efikasi kendiri keusahawanan yang kebanyakannya digunakan dalam institusi swasta dan ciri-ciri organisasi untuk menerangkan prestasi IPT merupakan sumbangan penting kepada pengetahuan dan pengurusan IPT. Dapatan ini memberi kesedaran kepada IPT untuk mengambil kira faktor-faktor yang didapati relevan kepada sektor swasta kerana mereka beroperasi dalam persekitaran yang sama.

Kata kunci: Improvisasi strategik, Efikasi kendiri keusahawanan, Prestasi IPT, Keusahawanan korporat, Budaya organisasi

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LIST OF ABBREVIATIONS

AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
CE	Corporate Entrepreneurship
CMV	Common Method Variance
ESE	Entrepreneurial Self-efficacy
GDP	Gross Domestic Product
GoF	Goodness of Fit
Ph.D.	Doctor of Philosophy
PLS	Partial Least Square
HEIs	Higher Education Institutions
KMO	Kaiser-Mayer-Olkin
NBTE	National Board for Technical Education
NPC	National Population Commission
NUC	National Universities Commission
OC	Organisational culture
OYAGSB	Othman Yeop Graduate School of Business
Perf	Performance
P_C	Composite Reliability
Q^2	Construct Cross Validated Redundancy
R^2	R-squared values
RBV	Resource-based View
SEM	Structural Equation Modelling
SME	Small Medium Enterprise
SPSS	Statistical Package for the Social Sciences
SI	Strategic Improisation
SWT	*Subhanahu Wa Ta'ala*
VIF	Variance Influence Factor
UNESCO	United Nations Educational, Scientific and Cultural Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In today's dynamic environment, Higher Education Institutions (HEIs) are important pillar for economic and social development (UNESCO, 2013). This is achieved through the provision of skilful and professional employees that are capable of staring the activities of businesses and government organisations in today's world (Xiong et al., 2013). HEIs institution have the traditional role of teaching, research and character moulding of our teaming population, to ensure society's survival and advancement. However, globalization, technological development, reduction in funding, competitive and dynamic environment and high public expectation and scrutiny (Coyle-Shapiro & Kessler, 2000; Mahmoud & Yusif, 2012) have created a lot of pressure for these institutions to increase efficiency (de Boer et al., 2017). These have affected not only the nature and purpose of HEIs but also management and leadership types needed to turn the fortune of these institutions.

Despite a number of challenges faced by HEIs in other parts of the world their contribution to Gross Domestic Product (GDP) of their country in increasing, while HEIs in Nigeria have nothing to write home about contributing less than 2% to GDP (National Bureau of Statistics, 2015). The rot in Nigerian education and specifically that of HEIs have impacted negatively on the entire economy (Adamu, 2015). Specifically, Nigerian HEIs' relevance had been seriously questioned as a result of rapidly dynamic, competitive, globalized and knowledge based economy of today's world (Adesulu, 2015; Famade, Omiyale, & Adebola, 2015). This is evident from the clear mismatch between societal needs and graduate produced by these institutions (Adesulu, 2015; Chapman & Sarvi, 2017; Oyebode, 2013). As a result, Nigerian HEIs have been identified as most backward within the West African sub-region (Apekhade, 2015), characterized by inadequate funding and curriculum, obsolete facilities, dearth of skilled personnel resulting in poor educational policies (Ahmad, Halim, Ramayah, & Rahman, 2013; Banya, 2015; Emmanuel, 2015).

In addition to the above mentioned issues facing HEIs around the globe. HEIs in Nigeria are also facing serious challenges and competition as a result of governmental reforms of the education sector and demand for quality education among the populace (Chapman & Sarvi, 2017). This might not be unconnected with, the competitive nature of the real market that requires highly skilled and innovative resources (staff) in both product and process as a yardstick of measuring the success of the educational system (Al-Husseini, 2015; Chapman & Sarvi, 2017). Moreover, HEIs in Nigeria are in a sordid state, lacking in efficient and effective management that are capable of articulating the necessary vision that will enhance performance and survival of the institutions (Agba, 2015).

Evidently, from the number of student seeking admission which is growing at an unprecedented rate of 1500 in 1970 to 1.7 million in 2014 at the tertiary level. On the other hand, government commitment to providing quality education to these teaming population is reducing, which is clear from education budget of

492,034billion ($2.5Billion) for education out of N4.3trillion ($21.5Billion) representing 11.5% (Atueyi, 2015). The figure is far less than the 26% recommended by United Nations Educational, Scientific and Cultural Organization (UNESCO) for all developing countries. Accordingly, the performance of these institutions has been seriously questioned, particularly for their inability to admit a significant portion of qualified candidates for many decades. For instance, Hassan (2014) stated that out of 1.7 million qualified candidates Only 35% were admitted in the year 2014.

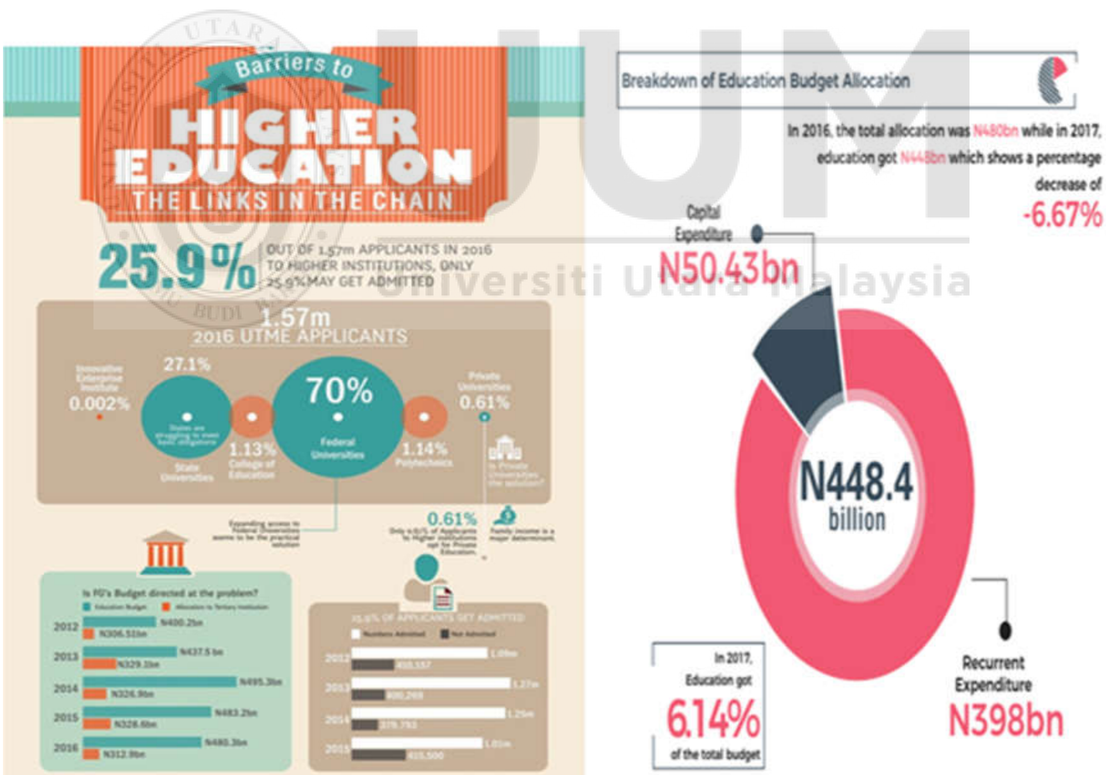

Figure 1.1
Budget and Number of Applicants

Hence, forcing many Nigerians to look for other countries including Malaysia for higher education. Dike (2014) argued that the Nigerian HEIs in the country have failed, the consequences of which is reaping the country more than $7.5Billion Dollars (Premium times, 2012), equivalent to one third of the country's 2015 national budget.

Dike (2014) also identified poor quality of leadership and governance; and prioritization of resource allocation as the missing link between Nigerian HEIs performance. HEIs management lacks entrepreneurial skills evidenced from their inability to attract funds that will contribute to institutional performance. In fact, this problem has aggravated the problem of underfunding, due to the inability of the management to access funds domiciled with Tertiary Education Trust Fund (TETFund). TETFund is a government intervention agency with the responsibility of charging 2% tax on assessable profit of all companies (registered) operating in Nigeria. Management of these HEIs were criticized for lacking basic knowledge of core agenda of their institutions (Salmi, 2009), leaving over N170Billion Naira (≠$472m) idle as unaccessed funding by Nigerian HEIs (Baffa, 2017). Specifically, TETFund executive secretary stated that "Here we are with so much money to spend, and the institutional managers, for whatever reason, are unable to access these funds" (Baffa, 2017).

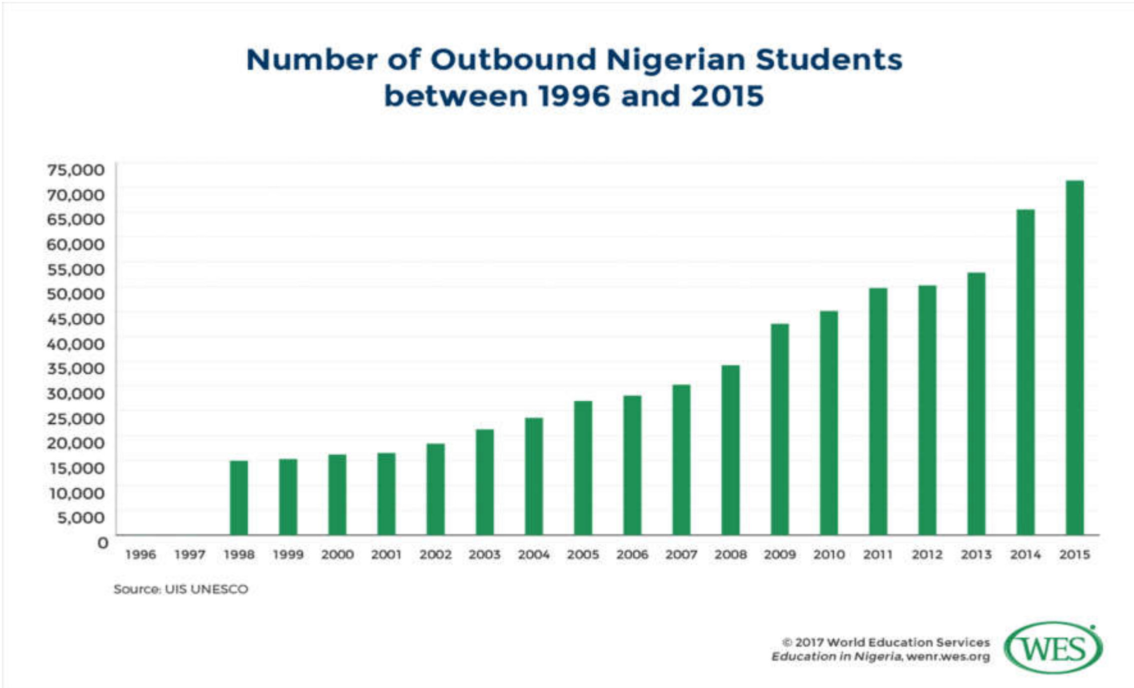

Figure 1.2
Number of Nigerian Student outside the country

Apparently, the neglect of educational sector in Nigeria results to lack of funds leading to skyrocketing of teacher-student relationship with 40% and 60% of the faculties understaffed in these institutions (Clark). Also, there is an increase number of social vices such as cultism, examination malpractices, poor research activities, moral laxity, brain drain and high rate of indiscipline (Dike, 2014; Oseni, 2015). Hence, the increase demand by public for accountability, as a result of diverse staff and students, and rapidly changing environment which affects performance of these institutions (Naidoo, 2002). These issues resulted to serious problems to the system and the nation at large. For example, Obielumani (2009) and Ejedafiru (2014) stated that HEIs are over stretched, producing half-baked or unskilled graduates making it difficult for them to find job.

The poor performance of the Nigeria graduates in various organizations has been attributed to lack of requisite skills, which has contributed to high level of unemployment (Chapman & Sarvi, 2017; Wangwe & Rweyemamu, 2001). Thus, severe lack of capacity in both human and institutions is one of the key fundamental problems facing the country (Wangwe & Rweyemamu, 2001). Not to mention the traditional techniques used by these institutions (Joyce & O'Boyle, 2013), hence, narrowing their efficiency and effectiveness to satisfy the need of their customers in today's environment (Nepal & Ramakrishna, 2017). Figure 1.1 summarized the pressure facing HEIs in Nigeria.

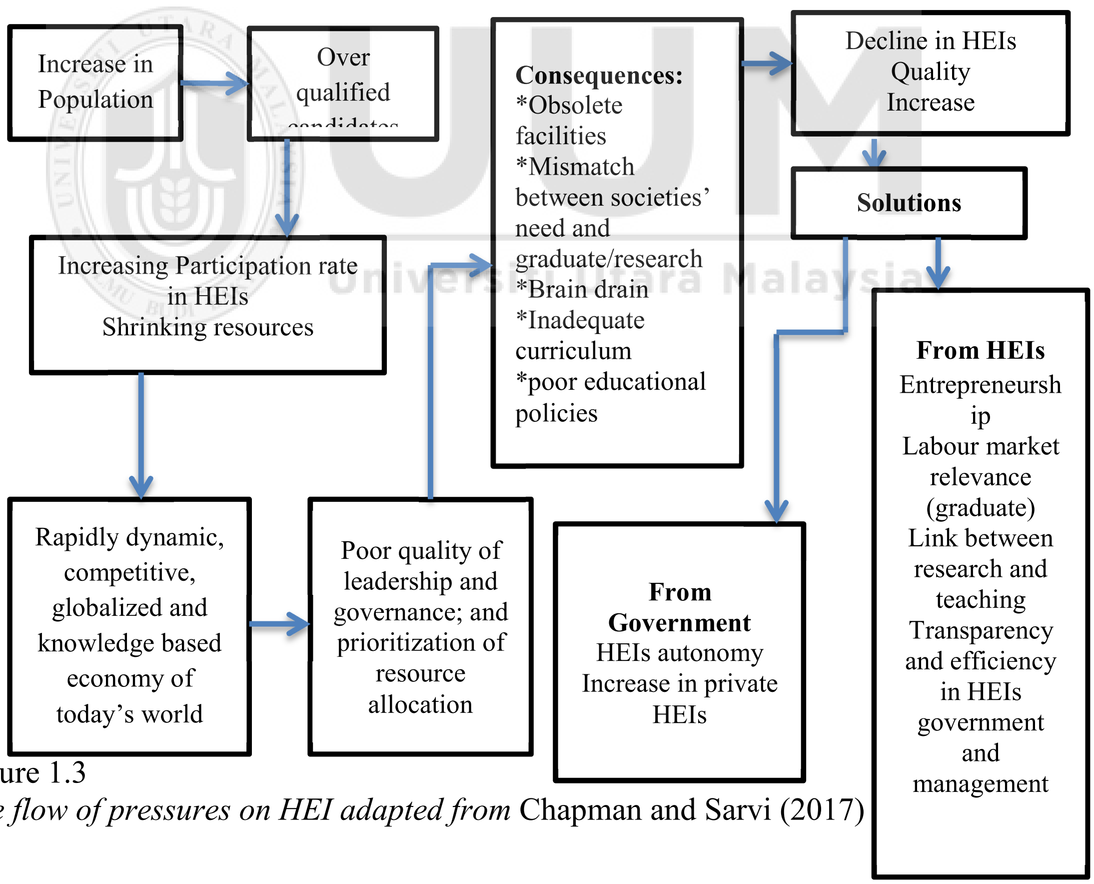

Figure 1.3
The flow of pressures on HEI adapted from Chapman and Sarvi (2017)

The role of education and in particular, that of HEIs in developing a pool economy of knowledge is undoubtedly acknowledged (Chapman & Sarvi, 2017). They have now been legitimately regarded as a means for economic and social development. The emphasis is on the need for HEIs to be globally competitive by producing qualitative graduate that will stand with graduates worldwide (Shi-Huei Ho & Yao-Ping Peng, 2016). Sobowale (2014) reported that there is the need for HEIs to fully acquire the essential requirements in both facilities and staff, which involves a lot of money. Thus, the call by scholars and stakeholders for Nigerian HEIs to adopt new planning and management system in generating funds outside government funding that will guarantee effectiveness in the long run (Abdulkareem, Akinnubi, & Oyeniran, 2012). They advocated for rapid changes, adopting the private sector development of market economy, democratization and globalization as the only means of strengthening its formulated policies to achieve their goals in today's dynamic environment.

In fact, Collis (2004) warned HEIs of the need to make rapid changes responding to the demands of government, students and the environment, failure of which will result to loss of students and research grant. This new method will help in meeting and matching the activities of these institutions with the dynamic demand of the environment. HEIs are advised to be agents of change by engaging in fundraising through research commercialization so as to supplement government grants (Ahmed, 2015). HEIs are therefore, expected to come up with means of maintaining efficiency and effectiveness so that they can address increasing challenges and also maintain the forefront (Rutherford, 2016).

One of the means available for public organizations especially HEIs, to increase efficiency and effectiveness lies in entrepreneurship and strategic management (Bridoux, Smith, & Grimm, 2013; D'Aveni, Dagnino, & Smith, 2010). Boyett (1997) provided more robust definition and reasons why, where and when public organizations should engage in entrepreneurship. In their own view, "Entrepreneurship occurs in the public sector where there is an uncertain environment, a devolution of power, and at the same time re-allocation of resource ownership, to unit management level. It is driven by those individuals, particularly susceptible to the "manipulation" of their stakeholders and with a desire for a high level of social "self-satisfaction", who have the ability to spot market opportunities and who are able through follower "manipulation" to act on them" (Boyett, 1997 p. 90).

Verily, organizational success in this changing environment largely depends on the ability of the management to forecast and get prepared for uncertainty and also make timely tactical decisions (Ahmad, Mohamed, & Manaf, 2017; Oyeku et al., 2014). In addition, transformation requires effective leadership that has the ability to plan, coordinate, manage and influence both tangible and intangible resources towards the attainment of organizational success (Bento, 2011). Moreover, entrepreneurship only become possible based on human ability, since entrepreneurs impact significantly affect organizational performance (Adam, 2005). This is as a result of their skill, knowledge and values (human capital) that will be used for the development of the organizational general objectives (Jeraj & Marič, 2013; Ruzzier, Antoncic, Hisrich, & Konecnik, 2007).

In fact, most organizational fails to achieve their objectives because they lack entrepreneurial role model and experts within the organization (Tijssen, 2006). These experts are expected to have the ability of understanding the dynamic nature of the environment, adopting market-driven concept by being proactive, futuristic and also provides for risk management. The task of responding and transforming is significantly facilitated through its leaders that capable of providing advanced policies for the betterment of the organisations (Kiani Mavi, Kiani Mavi, & Goh, 2016; Masouleh & Allahyari, 2017; Ratten & Ferreira, 2016).

It is clear that organisational performance is directly related to the overall individual performance (Rotundo & Sackett, 2002) and also that of HEIs is influenced by it leadership (Altbach & Salmi, 2011). Hence, understanding HEIs can be linked to how well it academic leaders performs are discharging their duties. Their performance is vital in explaining efficiency and effectiveness which directly impacts group performance and consequently that of overall institutions (Hackman, 2002; Muijs, 2011). Hence, for HEIs to achieved Nigerian HEIs to achieve it mission and be significant in today's environment, understanding academic leader's performance is vital.

In essence, given the significance of HEIs for economic development, the need for more studies in understanding the nature and factors that can enhance performance cannot be overemphasized (Ololube, Dudafa, Uriah, & Agbor, 2013). Specifically, the Nigerian HEIs crisis is worsening by leaders' inability to understand, prepare and respond to dynamism of today's environment. Moreover, studies have consistently neglected the role of leaders in improving organisational performance, despite their pivotal role in the private sector. Hence, the need for a paradigm shifts identifying new sources of financing, more flexible organizational forms (Aleixo, Leal, & Azeiteiro, 2016). To archive the needed change, HEIs sector require people who do not identify with a formal role of leader to engage in leadership

Hence, we argued that leaders' behaviours (SI & ESE) are also vital in initiating, encouraging and implementing policies; and programs that will lead to CE and performance. Similarly, organisational culture will play a moderating role due to its role as the key determinant of organisational policies. It is argued that organisations that condone trying new things are more likely to stay relevant in the business cycle. Moreover, studies on strategic improvisation and entrepreneurial self-efficacy have been inconsistent, providing mixed results. Therefore, the study examined the mediating role of CE and moderating role of OC on the relationship between strategic improvisation, entrepreneurial self-efficacy and performance.

1.2 Problem Statement

Despite the role of public sector performance towards encouraging good management and accountability (Faucett & Kleiner, 1994), there are few studies in the non-profit sector with even fewer in the HEIs (Küster & Avilés-Valenzuela, 2010), and specifically on academic leaders (Gmelch, 2013; Wahab, Mahmood, & Bakar, 2015) in developing economies like Nigeria (Wahab et al., 2015).

Specifically, managerial ability and strategy are distinct element toward entrepreneurial activities, and consequently organisational performance (Forkuoh, Li, Ampadu, & Osei, 2016), however, leaders influence, characteristics and their relationship to performance is still underdeveloped and far from clear (Park & Cho, 2014).

The need for a daring leadership role such as improvisation that will enhance performance and sustainability have been acknowledged (Phoewhawm, 2017). In addition, the procedure manual at these institutions are not enough in making decision in today's HEIs, due to the complexity nature of educational decisions and that of the environment (Nieto, Diaz, & Montenegro, 2016).

Specifically, studies on improvisation have been neglected (Cunha, Cunha, & Kamoche, 1999; Hmieleski & Corbett, 2008), particularly in respect to top executives or managers characteristics and decisions (Hadida & Tarvainen, 2014a; A. Rutherford, 2016), which are believed may likely influence organizational performance (Hambrick & Mason, 1984). Another limitation of the prior studies are that they were mainly conducted within the business environment with concern for venture creation and product development, using Chief Executive Officer (CEO) and managers of the organizations as samples of the study (Akgün, Byrne, Lynn, & Keskin, 2007; Bakar, Mahmood, & Ismail, 2015; Leybourne & Sadler-Smith, 2006; Nisula, 2015). Hence, little attention was given to public sector particularly the HEIs. In general, empirical studies on improvisation, especially on the outcomes and its consequences, are limited

(Arshad, Razalli, Julienti, Ahmad, & Mahmood, 2015; Chelariu, Johnston, & Young, 2002; Hadida & Tarvainen, 2014a; Kyriakopoulos, 2015; Mueller, 2011).

Similarly, Wahab et al. (2015) emphasized the need for self-efficacy in this dynamic environment, as it is one of the behaviour required to respond to and meet all the demanding challenges. There is a considerable number of studies linking self-efficacy to performance especially in a complex decision-making situation (Arenas, Tabernero, & Briones, 2006; Sullivan, O'Connor, & Burris, 2006). However, Self-efficacy has received less attention especially on its likely determinants role in managerial decision making (Hiller & Hambrick, 2005; Zaccaro, 2012), particularly within the academic environment (Sahlan, Rahman, & Amin, 2015). In addition, most previous studies used students as samples which have been criticized, because students are just surrogate of real entrepreneurs. Hence, only make decisions based on their assumption, expectations and knowledge as they are not part of the real business context. Apart from that, researchers such as Hmieleski and Baron (2008) and Hadida and Tarvainen (2014b) have identified paucity of research on both SI and ESE.

Besides, there is still paucity of research in respect to how entrepreneurs use resources at their disposal to enhance organizational performance (DeGeest, Follmer, Walter, & O'Boyle, 2015). Since it is generally believed that resources alone would not guarantee organizational success (Sirmon, Hitt, & Ireland, 2007; Sirmon & Hitt, 2003). Moreover, DeGeest et al. (2015), stated that relatively little is known about the process and how managerial decision such as SI and ESE affects the use of organizational resources to ensure growth and survival. Also, studies are more concern on factors that led to corporate entrepreneurship neglecting the mechanism through which it is conceived, natured and pervaded into action in the organization (Tang et al., 2015; Turner & Pennington, 2015).

Another neglected aspect is the role of internal factors such as individual and leaders behaviours as antecedence of CE especially in public sector (Calisto & Sarkar, 2017; Kearney & Meynhardt, 2016; Tang et al., 2015). Despite, the effect of CE for organisation seeking renewal and improve performance (Kearney & Morris, 2015), and the role of individuals in supporting the development of CE (Chen, Chang, & Chang, 2015; Hornsby, Kuratko, Holt, & Wales, 2013), been widely acknowledged. Specifically, leaders SI and ESE have been identified as antecedent of CE and performance. Leaders with these behaviour are eager to explore new ideas and means of utilizing organizational resources (Chen et al., 2015) and also starting new venture (Markman, Balkin, & Baron, 2002), consequently, increases organisational performance. Hence, it is crucial for HEIs to identify individual's actor behaviour needed for successful development of CE at these trying times they found themselves. After all CE is developed as a result of the individual knowledge and skills, which consequently, enhances competitive advantage of organisation (Calisto & Sarkar, 2017).

Furthermore, scholars have suggested the use of CE as a mediating variable (Antoncic & Zorn, 2004; Kreiser & Davis, 2010; Lumpkin & Dess, 1996) in performance relationship in order to understand internal management factors responsible for its occurance (G. Tang et al., 2015). Additionally, studies on CE largely focused on the private sector (Phan, Wright, Ucbasaran, & Tan, 2009), despites its role in ensuring organisational competitiveness and survival. Finally, Baron and Kenny (1986) stated that examining the moderating and mediating relationship in a single model may provide an additional insight into the influence of a third variable (organizational culture and corporate entrepreneurship) on the dependent variable. Therefore, these present study incorporates CE as a mediating variable in the relationship between SI, ESE and performance in Nigeria.

Furthermore, relationship between SI and performance is equivocal as such providing conflicting results (Arshad & Hughes, 2009; Crossan, Cunha, Vera, & Cunha, 2005). Indeed, this could be connected with the assumption of many scholars that improvisation is not generally good or bad (Crossan et al., 2005a; Vera & Crossan, 2004, 2005). This call for the inclusion of a moderating variable between improvisation and performance so as to be able to explain the reason some entrepreneurs improvise better than the others (Hmieleski & Corbett, 2008). Similarly, the relationship between ESE and performance have been found to be yeilding conflicting results ranging from a positive relationship (Baum, Locke, & Smith, 2001; Baum & Locke, 2004; Hmieleski & Baron, 2008; Hmieleski & Corbett, 2008), to negative (Stone, 1994) and even non-significant (Poon, Ainuddin, & Junit, 2006). In addition, the relationship between ESE and performance is posit not to be straightforward thing, and therefore the call for more effort especially on its relationship with performance using a third variable (Chen, Greene, & Crick, 1998).

In view of the above shortcomings, it is generally assumed that the nature of the relationship will be influenced by the type of culture that exists in a particular organization, since it was found that cultural norms and values affect the way in which both ESE and SI can be tolerated and used in organization (Leybourne & Sadler-Smith, 2006). Furthermore, individual characteristics have been established to influence firm activities, hence, we argued that OC plays an important role in determining the goals, processes and structure that will be initiated and executed by leaders in an organisation (Finkelstein, Hambrick, & Cannella, 2009; Hambrick, 2007).

Contextually, studies on organisational performance and its determinants were largely restricted to developed nations such as United States (Carter, D'Souza, Simkins, & Simpson, 2010; Robb & Watson, 2012), United Kingdom (Higón & Driffield, 2011), developing nations such as Malaysia (Bin & Abbas, 2013; Hassan, Hassan, Mohamad, & Chaw Min, 2012), and India, among others (Bhatnagar, 2006; Girma & Vencappa, 2014). Hence, this suggests that more studies are needed in the African context, especially in Nigeria considering its position in African continent.

Although, few studies have considered public sector performance in Nigeria Abdulkareem et al. (2012), Gberevbie (2010), Oghojafor, Kuye and Sulaimon (2011), Okuwoga (1998) and Oseni (2011), little are related to performance of HEIs in Nigeria. Moreover, no reference has been made to the combined variables in this study's model. Based on the above issues, shortcomings and suggestions of the previous studies, a paradigm shift by HEIs and their leaders is needed for them to play the expected development role of societal renewal toward economic prosperity. Especially, when leadership efficacy has been identified as a one of the major factor influencing performance (File & Shibeshi, 2011).

Therefore, the present study explores the impact of leaders' strategic improvisation, entrepreneurial self-efficacy on performance through the mechanism of corporate entrepreneurship and organizational culture as a moderating variable that will further explain the relationship.

1.3 Research Questions

Based on the problem statement of the present study, the following questions were raised:

1. Does leaders' strategic improvisation positively relate to performance?
2. Does leaders' entrepreneurial self-efficacy positively relate to performance?
3. Does leaders' strategic improvisation positively relate to corporate entrepreneurship?
4. Does leaders' entrepreneurial self-efficacy positively relate to corporate entrepreneurship?
5. Does corporate entrepreneurship positively affect performance?
6. Does corporate entrepreneurship mediate the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance?
7. Does corporate entrepreneurship mediate the relationship between leaders' entrepreneurial self-efficacy and performance?

8. Does organizational culture moderate the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance?
9. Does organizational culture moderate the relationship between leaders' entrepreneurial self-efficacy and performance?

1.4 Research Objectives

The primary objective of the present study is to examine the relationship between SI, ESE and performance. In addition, the study also considered the indirect role of CE and OC in Nigerian HEIs. Specifically, the following research objectives were raised:

1. To examine the positive relationship between leaders' strategic improvisation, and performance.
2. To examine the positive relationship between entrepreneurial self-efficacy and performance.
3. To examine the positive relationship between leaders' strategic improvisation, and corporate entrepreneurship.
4. To examine the positive relationship between entrepreneurial self-efficacy and corporate entrepreneurship.
5. To examine the positive relationship between corporate entrepreneurship and performance.
6. To determine whether corporate entrepreneurship mediates the relationship between leaders' strategic improvisation and performance.

7. To determine whether corporate entrepreneurship mediates the relationship between entrepreneurial self-efficacy and performance.
8. To determine whether organizational culture moderates the relationship between leaders' strategic improvisation and performance.
9. To determine whether organizational culture moderates the relationship between entrepreneurial self-efficacy and performance.

1.5 Scope of the study

The study investigates the mediating and moderating role of corporate entrepreneurship and organizational culture on the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance in Nigeria. The study utilizes survey research; specifically a questionnaire was administered to academic leaders in all HEIs in Kano state.

Kano state which is in the North West part of Nigeria was selected because it is the most populated state in the country with an estimated population of 7.1% (10 million) of the total 140 million (National Population Commision, 2006). Also, Kano state is an important state for Nigerian education as it plays a host to many other students from North West zone and Nigeria at large due to it's peaceful and accommodating nature of its people. Therefore, it will serve as guidance to other states within the region on how to improve their educational sector, especially as most of them are far behind the literacy accepted zone. Specifically, the present study will focus on how leaders entrepreneurial behaviours such as strategic improvisation and entrepreneurial self-efficacy influence performance.

Furthermore, academic leaders with these qualities (strategic improvisation and entrepreneurial self-efficacy, corporate entrepreneurship) will not only increase their performance, but also guide their staff and students towards entrepreneurial behaviour that will be useful to the larger society. Additionally, corporate entrepreneurship is only feasible when organizational leaders have the belief and ability to perform their functions effectively and efficiently as an entrepreneurs (Forbes, 2005; Gürbüz & Aykol, 2009). The unit of analysis is inidvdiudal in this study.

1.6 Significance of the Study

Theoretically the study provides more empirical studies on these strategic orientation variables in relation to performance. Previous studies have established the importance of these variables in influencing performance, especially within the business environment. However, none of the studies combined these important variables, as much of them focus on one or few in relation to performance. Furthermore, most of the studies either focused on the individual characteristics or organizational characteristics in determining performance, neglecting the call for inclusive study that combines both individual and perceived organizational characteristics, since none of them exist in a vacuum.

Also, this study is a pioneering one that investigates the impact of leaders' strategic improvisation, entrepreneurial self-efficacy and performance in Nigerian HEIs, and specifically in the public sector. In the domain of Resource Base View (RBV) theory, the study offered a significant contribution by providing an empirical evidence of the issue not currently addressed in the literature. The theory explains the ability of firm to acquire certain unique resources that will create value better than its major rivals which cannot be easily substituted and copied (Barney, 1991). In view of the theoretical insight, the present study proposed the mediating and moderating role of corporate entrepreneurship, organizational culture on the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance.

The findings of the study assists in understanding the entrepreneurial practices needed to turn around the public sector, since strong and effective leadership plays a very vital role in the possibility of a university becoming an entrepreneurial one (Yusof & Sapuan, 2008). It also helps in motivating and developing the strategic improvisational behaviour and entrepreneurial self-efficacy of staff as well as students of HEIs in Kano state and Nigeria at large.

Additionally, the study helps in preparing students for the challenges facing the business world and the society as a whole, thus preparing them on how to run business effectively (Abereijo, 2015). Similarly, the study provides a guide on how HEIs can become entrepreneurial in their activities and also improve their performance, searching for better ways to maximize their outputs that include students, results, invention and innovations, to meet the dynamic needs of the environment. Finally, the study provides a guideline to policy makers to devise means through which tertiary institutions can strategically incorporates its activities with the economic reality and industry of the country.

1.7 Definition of terms

i. CE is the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization (Sharma, Chrisman, & Chrisman, 1999).

ii. Entrepreneurial self-efficacy is operationalized as leaders' ability in successfully executing entrepreneurial activities for the betterment of the institution. This involves the ability to market the institution through research and quality output (students), innovative practices in teaching and learning, responsibilities and roles coordination (Management), risk taking on the process of research funding and commercialization and financial control to fully utilize their few resources. This is in line with Chen, Greene and Crick (1998), which highlighted the key activities of entrepreneurial self-efficacy to include Marketing, innovativeness, management, risk-taking and financial control.

iii. Organizational culture is operationalized as a shared set of values that induces societal values, perception, preference and response (Daft, 1995).

iv. Performance is operationalized as the ability of the leaders' to efficiently utilized its few resources and also provide the needed service to the satisfaction of its employees and customers (Kim, 2010).

v. Strategic improvisation is operationalized as the leaders' ability to respond to unforeseen circumstances intelligently and effectively in order to solve a problem or utilize an opportunity. It involves making a creative decision or action outside the formal organization structure (Vera & Crossan, 2005).

1.8 Organization of the Thesis

The present study has five chapters. Chapter one covers the background of the study where practical issues related to the variables of the study are highlighted and discussed. The chapter also contains problem statement, research question and objectives, scope and significance of the study as well as the definition of terms.

Chapter two identifies and review related literature on performance, SI, ESE, CE and OC. The chapter focuses on empirical justification of the relationship between the variables of the study as well as the methods used in establishing the findings. In addition, research framework, underpinning theories and hypotheses were also discussed in this chapter.

Chapter three covers the process and methods that includes research design, sampling, population, unit of analysis, measurement and operationalization of the variables of the study. Moreover, data collection and statistical tool used for data analysis from data cleaning to main analysis were all reported in this chapter.

Chapter four covers the analysis part which was assessed using PLS-SEM version 3.0 is divided into two: measurement model and structural model. After which the result and interpretation were discussed.

Finally, chapter five discusses the findings and also provides recommendation in line with research questions and objectives of the study. Furthermore, the study's limitations and recommendation for future study is also provided.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents an extensive review of previous relevant literature and theories related to the study's constructs, such as resource-based theory and social cognitive theory. Specifically, this chapter discusses and analyzes related and significant concept of performance, leaders' strategic improvisation, entrepreneurial self-efficacy, corporate entrepreneurship and organizational culture. In the same vein, relevant relationships between variables were extensively and critically discussed. Afterward, the hypotheses were developed using related studies that explain existing relationship between criterion, mediator, moderating and predicting variables respectively.

2.2 Concept of Organizational Performance

Organizational performance is considered to be one of the major discussed fields in management around the world (Carlos Pinho, Paula Rodrigues, & Dibb, 2014). It importance has cut across all field such as business, entrepreneurship, strategic management social, educational and public organizations (Thiel & Leeuw, 2002), this is as a result of dynamic and competitive environment of today's market (Neely, 1999). From the strategic management aspect, the concept mainly focused on the financial aspects, as improvement of the organizational performance had been considered as the heart of the discipline (Venkatraman & Ramanujam, 1986). Performance from the entrepreneurship aspect has been used mainly as a dependent variable (March & Sutton, 1997; Rogers & Wright, 1998); mainly trying to explain the variance occurs to the construct (Carton & Hofer, 2010). Conclusively, performance within the entrepreneurship aspect mainly focuses on two major issues: examining the way and manner in which organizational performance can be improved and explaining the changes that occur in organizational performance (March & Sutton, 1997).

Although, the concept of organizational performance has gained a lot of attention for many decades now, there is still lack of generally acceptable definition of the construct (Appiah-adu & Ranchhod, 1998; G. B. Murphy, Trailer, & Hill, 1996). However, despite lack of general definition of organizational performance there seems to be some agreement in terms of complexity and multidimensionality of the concept (Dess & Robinson, 1984; Ford & Schellenberg, 1982; Johannessen & Olaisen, 1999). Organizational performance has been identified as the input-output relationship after a given period, it involves comparing value created by the firm with that of the shareholders (owners) expectations (Alchian & Demsetz, 1972). The idea of organizational performance is an important measure in evaluating the success of the organizational activities (Antony & Bhattacharyya, 2010; Moullin, 2007).

Organizational performance have been defined by several scholars, for example Pitt and Tucker (2008) defined organizational performance as "a vital sign of the organization, showing how well activities within a process or the outputs of a process achieve a specific goal" (p.87:243). Organizational performance is also defined as a process of comparing and contrasting the organizational actual result with that of the expected, in other to identified deviation and success (individual) as well as re-strategize in order to achieve the said objectives in the future (Ngah & Ibrahim, 2010). Similarly, it has been defined as the process of achieving organizational goals and target through full utilization of information that will ensure efficient and effective utilization of resources to provide quality products and services to the customers (Amaratunga & Baldry, 2003). Accordingly, Yacuzzi (2005) defined performance as the ability of the organization to meet the expectations of the customers in terms of quality product and services. In the same vein, performance is also defined as the process in which organizations quantify their actions (Neely et al., 1995).

Furthermore, Hansen and Wernerfelt (1989) stated that performance measurement are those activities that help organizations to identify their area of strength and weakness in term of cost, time and quality, with a view of making the necessary adjustment to achieve higher output. However, measuring performance have been identified as the most complicated issue in organizational studies (Lentz; Kanter and Brinkerhoff, as cited Tsai, MacMillan, & Low, 1991). Even though, performance can be measured using both financial and non-financial measures (Ringim, Razalli, & Hasnan, 2011). Traditionally, objective organizational performance is more preferred than the subjective (Kim, 2005). However, the subjective measure is also valid especially when there is no availability of objective measures, in fact, several authors prefer subjective due to its multidimensional nature (Venkatraman & Ramanujam, 1987). Dess and Robinson

(1984) stated that in marketing individual measures have shown high reliability and validity with strong correlation with objective measures. Some of the variables used in measuring financial performance include sales (Denison, 1984; Palepu, 1985), market value (Kim & Santomero, 1988) return on asset (Bourgeois, 1980; Dess & Robinson, 1984), return on asset (Dess & Robinson, 1984; Rashid, Sambasivan, & Johari, 2003) and return on equity (Palepu, 1985; Waddock & Graves, 1997).

Non-financial performance is divided into three broad perspectives, namely, management, human resource and marketing. Some of the variables used to measure non-financial performance in marketing include mission achievement (Blackmon, 2008; Niven, 2011), market share, product quality, sources of competitive advantage and industry structure (Porter, 1985). Deshpande, Farley and Webster (1993) use organizational innovativeness with the analysis embedded within the organizational culture framework for the management perspective, while the human resource perspective focuses on job performance (Pettit, 1997; Pincus, 1986) job satisfaction (Wheeless, Wheeless, & Howard, 1983) and employee productivity (Clampitt & Downs, 1993).

However, Organizational performance has been measured as a single indicator using one-dimension in various studies despite admitting being a multidimensional construct (Kaplan & Norton, 1996; Miller, Washburn, & Glick, 2013). Furthermore, Richard, Devinney, Yip, and Johnson (2009) stated that if numerous dimensions exist, researchers are at liberty to choose the dimensions most relevant to his/her study and also interpret the result based on the choice made. In addition, debates on the type of performance measurement effecetive for an organization is still open, as objectives vary with organizations (Cameron, 1986; Santos & Brito, 2012) and also different objectives (Gomes, Yasin, & Lisboa, 2004). The need for measuring organizational performance is vital to all organization. It helps in determining the organizational success or failure that serves as a motivating factor in setting a new yardstick that assist in improving or maintaining the organization success (Trkman & McCormack, 2009). Accordingly, research on performance have been classified into two main area; investigating how to improve performance and the changes that occur to performance (March & Sutton, 1997).

Recently, there are greater expectations by stakeholders for public organizations to increase performance at all level (McAdam, Hazlett, & Casey, 2005). These indeed, call for accountability as well as judiciously used of resources that will lead to efficient and effective service delivery (Guthrie & English, 1997; Hood, 1995). Researchers have found several factors to be determinants of organization performance (Baker & Sinkula, 1999; Lieberson & Connor, 1972). Some of these factors are cognitive factors (Acharya, Rajan, & Schoar, 2007; Shane, Locke, & Collins, 2003), personal characteristics (Inmyxai & Takahashi, 2009; Segal, Borgia, & Schoenfeld, 2007), firm characteristics (Beneki & Papastathopoulos, 2011; Mancinelli & Mazzanti, 2009) and external factor (Abd-Aziz & Mohd-Yassin, 2010; Romano & Ratnatunga, 1995) to mention a few.

2.3 Importance of performance

As highlighted above, performance has received a lot of attention by both private and public institutions (Amanchukwu, Stanley, & Ololube, 2015). To understand organisational performance, employee's productivity and performance are critical, which have resulted to a lot of spending to train and develop them to ensure maximum utilizations. This is because only efficient and effective management capapble of articulating vision can improve performance (Agba, 2015). In fact, people are the most valuable assest of organisations (Kim, 2010), hence, making individual performance very famous in management research. In fact a lot of studies have estbalished the linked between indidvidual performance as a yardstick of measuring organisational performance (Bloom, 1999).

Apart from the self satisfcation and reward achieved from a well executed work by individual in an organisation (Sonnentag & Frese, 2002), individual performance has been attributed to effectivenss, efficiency and sustaniability (Johnson, 2003). Hence, the large investment by both public and private instutions to ensure well trained, skillfull and qualified empoyees in their organisations, which will ensure success and competitive advantage. Specifically, indivdiual performance relevance to organisations cannot be overemephasized, it has been linked to business effectiveness, profitability and survival (Motowidlo, 2003).

2.4 Individual performance

It could be recalled that organisational performance is as the process of achieving organizational goals and target through full utilization of information that will ensure efficient and effective utilization of resources to provide quality products and services to the customers (Amaratunga & Baldry, 2003). This performance is mostly measured using financial and non-financial factors (Škrinjar, Bosilj-Vukšic, & Indihar-Štemberger, 2008). On the contrary performance at the individual level is lacking in definition despite its popularity in explaining organisational performance, especially in public sector (Kim, 2005). Individual performance is seen as that interaction that occur between person's behaviour at work and the specific formal and informal demands imposed by that person's work context (Griffin, Griffin, & Parker, 2007).

Historically, three basic approaches have been often used by researchers to explained and define the concept of individual performance. These factors are either associated with the outcomes of the job, individual traits or behaviour (Robinson, Shaver, & Wrightsman, 1991).

Recently, studies tend to focus on outcomes and behaviour as the main factors in explaining individual performance, because they are more objective and easy especially when we look at the perspective of the traits of the individual (Hersen, 2004). In line with the above, most scholars prefer the combination of both behaviour and outcomes to understand performance (Williams, 2002). Accordingly, Borman and Motowidlo (1997) confirmed that individual performance is both behaviour and outcomes, in such a way that behaviour is also an outcome of the decision which can be judge on its own. Precisely, Williams (2002) stated that outcomes is determine both in quality and quantity, while the actions, decisions and activities that ensures the outcome explain the behaviour in achieving performance.

Taking the above explanation into consideration must large organisations measure individual performance based on the task and contextual factors. For example in academic environment, individual performance of academia, scientist and scholars are measured based on their research, teaching, quality of students (outputs), funded research grant and governance capabilities. In fact, these factors are not only used in explaining individual academic performance but also ability to access funds from both government and industry (Abbasi, Wigand, & Hossain, 2014).

Nevertheless, recent individual performance literature are focusing their attention on behaviour in explaining performance rather than the outcomes. Studies under this contention can be attributed to Grote (2002) and Murphy (1989). For instance, Murphy (1989) argues that performance should be more of behaviour rather than outcomes, because the outcomes clearly explained how good individual behaviour performance. Specifically, individual performance is a "set of behaviours that are relevant to the goals of the organisations or the organisational units in which a person works" (Murphy, 1989, p.227). Additionally, Viswesvaran (2001) stated that individual performance is more of behaviour, even though the difference between behaviour and outcome is no clear. In the same vein, Bettencourt, Bond, Cole and Houston (2016) is of the view that for us to understand individual performance, three factors must be considered. Specifically, they highlight skills and innovativeness of the individual to that particular context, domain or contextual goal commitment and situational factors that helps or hinders the attainment of that particular goal.

Conclusively, individual performance has been often defined by prior research as more of behaviours (Beck, Beatty, & Sackett, 2014), results (Minbashian & Luppino, 2014), or both (Viswesvaran & Ones, 2000). Despite, majority of studies focusing on behaviour as one of the major determinants of individual performance, Campbell et al (1993) argued that not all behaviours results to performance. They argued that behaviours can only result to performance only when they are in line with the overall organisational goal of that organisation. Hence, they emphasised that performance is not the outcome of behaviours, but the behaviours themselves. For instance, Campbell et al (1993) explains the differences between behaviour and outcome. They stated that behaviour is more of the activities of the individual at his work place (e.g. research, teaching and supervision) which can be explained by the skills and competencies display during these activities. On the other hand, outcome performance is the result of these behaviours and competencies such as number of publication, employability of the students) which are also related to external factors as well as the individual's behaviour (Sonnentag & Frese, 2002).

2.5 Leaders' performance

Organisational performance largely depends on the quality of leaders at the various positions of the organisation, because leaders' ability and competencies does not only reflect on their performance but also that of their subordinates, department and peers (Bass & Stogdill, 1990; Wang, Oh, Wang, & Zhang, 2010). Leaders are change makers by create new vision to ensure institutions transformation and adaptation (Sotarauta, 2009). In 1940 Rensis Likert, highlighted the need for researchers to focus more on leaders' behaviour, orientation and styles as the main factors of understanding performance (Martin, 2001). Hence, the need for organisations to appreciate and recognised employees and leaders behaviour as the root source of productivity and quality.

Leadership theory is of the view that organisational effectiveness in problems solving and responding to today's dynamic environment largely depends on the ability of the leaders (Joyce & O'Boyle, 2013). In view of the above, organisations such as HEIs are facing structural and process transformation that favours flexibility and adaptability (Brizek, 2014). Since, effective leadership ability is vital in ensuring performance, sustainability and relevance which can only be achieve through leaders effort as the key influencing factor in a changing environment (Jin, Jinrong, & Miao, 2003). Hence, HEIs are becoming political arena where intelligent, skilful and resourceful academic leaders are important to its survival and relevance. Specifically, HEIs survival in today's environment requires leaders with entrepreneurial, political and emotional skills that proactively and systematically organized; and respond to different situational demand that may arise (Raagmaa & Keerberg, 2016). This submission is in line with that of (Vroom & Jago, 2007), where they argued that leaders' behaviour differs depending on the situation at hand. Hence, the need for academic leaders to lead and act in such a way that can inspire, support and encourage mutual support (Clarke & Mahadi, 2015) which will effectively influences individual responses.

Although leaders' effectiveness and performance are relatively ascertain by individual hard work, commitment and intelligence, other behavioural flexibility and adaptability also plays a vital role (Joyce & O'Boyle, 2013). In essence, leaders' entrepreneurial and strategic behaviour is an important change factor for organisational change, especially when becoming entrepreneurial in nature (Shah, Muhammad, & Rehman, 2016). In essence, entrepreneurial behaviour is an influencing behaviour which helps in inculcating same to other members and consequently incorporated within the organisation (D. F. Kuratko & Hornsby, 1998; Lenka, Chawla, & Smith, 2015). As entrepreneurship and strategic management becomes inevitable for organisational survival and renewal, leaders improvisation and entrepreneurial behaviour becomes the shaping factors for all organisations (Clark, Murphy, & Singer, 2014).

Conclusively, leaders are central to organisational success in which vision, policies, strategy, implementation and monitoring are developed and maintained using their skills, knowledge and competencies (Wahab, Mahmood, & Bakar, 2016). Impliedly, leaders are expected to have both leadership and managerial competencies in both knowledge and skills to be successful in today's environment (Arham, Romle, Norhayati, Hanapiah, & Muslim, 2016). Empirically, studies have established linked leaders ability to carry out their day-to-day activities in line with their respective roles as the leaders' effectiveness and performance, which consequently ensure organisational performance and sustainability in the long run.

2.6 Leaders' Strategic Improvisation (SI)

Traditionally, strategic planning has been considered as an important factor for organizational survival (Arshad & Hughes, 2009). Strategic planning (SI) is defined as " a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization (or other entity) is, what it does, and why it does it" (Olsen & Eadie, 1982 p.4). The emphasis on the need for strategic planning has been fully documented by various scholars within the academic arena (Chelariu et al., 2002; Moorman & Miner, 1998a). However, the current environmental pressure and unprecedented fast changes forces management to break away from the normal traditional ways to seek and alternative to strategic planning in improvisation (Wind & Mahajan, 1997). The accelerated rate at which changes occurs within the environment cannot be overemphasized, thus, make it difficult for organizations to always have the time to plan, as such employees are frequently forced to act before they can fully analyze all available options.

SI an emerging field of study in the management science that deals with providing solutions on how organizations will adapt to dynamism of the environment (Bakar et al., 2015a; Hadida & Tarvainen, 2014; Kamche & Cunha, 2001; McKnight &

Bontis, 2002). Besides, strict adherence to strategic planning has been identified as a hindrance to creativity, flexibility and the development of an appropriate plan for the organization (Slotegraaf & Dickson, 2004). Therefore, organizations are expected to develop an alternative means of facing turbulent environment by breaking away from the traditional strategic planning in order to add value to its customers and stakeholders (Chelariu et al., 2002; Mankins & Steele, 2006). This can only be achieved by updating plan to meet present situation and using real-time information to make decision (Arshad & Hughes, 2009). This process is identified as improvisation, i.e. a situation where organization deviate from the existing plan (Rogers, 1983). Therefore, improvisation did not indicates the absence of strategic planning but considered as "informal strategic planning" (Arshad & Hughes, 2009).

Nonetheless, improvisation does not occur all the time in an organization, even though it has value to the organizations (Hutt, Reingen, & John R. Ronchetto, 1988), but occurs in what is assumed to be in certain circumstance that requires fast learning and adaptation for the survival of the organization (Chelariu et al., 2002). Apart from the dynamism of the environment, organizations are faced with limited resource, intense time pressure and unique problems that have no available trial and error or pre-planned solution to the problem. For these reasons, it is important for organizational heads to be able to compose and execute the needed program that may have an impact on the organization's performance (Hmieleski & Corbett, 2008). In essence, the idea of improvisation is to plan as well as act at the same time, which serves as a contingency plan as a result of ambiguity and uncertainty (Weick, 1993). Thus, improvisation is addressing the unforeseen circumstances without the benefit of preparation.

Improvisation adapted from Jazz performance, is now used by business organizations because jazz bands occur in fluctuating situation while companies now operate in a turbulent environment (Hilman & Siam, 2014; Malik & Mahmood, 2012). Improvisation has been used in diverse fields such as music and theater, politics, sociology education, sport, and psychiatry (Miner, Bassoff, & Moorman, 2001; Moorman & Miner, 1998a). Thus, leading to many definitions by various scholars from different fields such as organizational learning (Cunha et al., 1999; Moorman & Miner, 1998a), management (Barrett, 1998; Berniker, 1998; Mirvis, 1998; Peplowski, 1998), organizational design (Hutchins, 1991;Weick, 1998), innovation (Brown & Eisenhardt, 1995; Kamche & Cunha, 2001; Tabrizi, Eisenhardt, & Tabrizi, 1995), product development (Miner et al., 2001; Moorman & Miner, 1998a) and workflow management (Klein & Dellarocas, 2000) to mention a few.

Strategic or organizational improvisation is new, interdisciplinary and occasionally uncontained concept. Hence, lack a sound definition and also lacking in robust findings on its occurrence within the organization (Hadida & Tarvainen, 2014; Weick, 1998). However, there is a high degree of agreement as regards to many of its properties (Vera & Crossan, 2004). According to Schuller (as cited by Barrett, 1998), improvisation originated from a Latin word “improvises” meaning "not seen ahead of time," improvisation is "playing extemporaneously ... composing on the spur of the moment".

Similarly, Weick (1998) argued that improvisation originated from "Proviso" which means to make a stipulation beforehand, to provide for something in advance, or to do something that is premeditated" (p.544). By adding "im" prefix the meaning changed, thus, improvisation is the process of dealing with the unforeseen, unplanned and unexpected circumstances. Improvisation is defined as "the ability to spontaneously recombine knowledge, processes and structure in real time, resulting in creative problem solving that is grounded in the realities of the moment (McKnight & Bontis, 2002)". Also, Ciborra (1996) defined improvisation as the process of overcoming the turbulent circumstances facing the organizations, through the utilizing of the available information and structure at its disposal. Improvisation is also defined as the deliberate and substantive convergence of the design and execution process (Miner et al., 2001; Moorman & Miner, 1998a, 1998b). They stated that the more nearly designing and implementation is, the more improvisational the activity. Table 2.1 below shows various definitions, their authors as well as domains.

However, all these definitions have been identified as a product of two methods which are "cutting and paste" and/or "by cutting, at the author's convenience, the construct as it has been defined (again) by researchers in jazz improvisation" (Cunha et al., 1999). Following this conclusion, Cunha et al. (1999) defined organizational improvisation as "the conception of action as it unfolds, by an organization and/or its members, drawing on available material, cognitive, affective and social resources". Other related construct of organizational improvisation includes bricolage (Weick, 1993), creativity (Amabile, 1988;

Barron & Harrington, 1981; Sternberg & Lubart, 1993), intuition (Chase & Portney-Chase, 1988), adaptation (Campbell and Stein as cited in Miner, Bassoff, & Moorman, 2001) and learning (Epple, Argote, & Devadas, 1991; Levitt & March, 1988).

Table 2.1
Selected definitions, source and domain of strategic improvisation

Definitions	**Authors**	**Domain**
"Improvisation in the present ... to stay focused on current conditions,...while maintaining project schedules" (p. 9)	Bastien & Hostager (1998)	Product development
"Intuition guiding action in a spontaneous way" (p. 1)	Crossan & Sorrenti (1997)	Management
"Intuition guiding action upon something in a spontaneous but historically contextualized way" (p. 5)	Hatch (1997b)	Management
"an activity which requires no preparation and obeys no rules" (p. 65)	Mangham (1986)	Management
"Improvisation-the casting around for a precedent or referent that will enable someone to deal with a circumstance for which no script appears to be immediately to hand" (p. 41)	Mangham & Pye (1991	Management
"To be composed while performed" (p. 51)	Perry (1991)	Management
"Improvisation is to be distinguished from rewriting a musical in that changes are introduced during the performance by the performing individuals and not by the composer before the event" (p. 84)	Preston (199la)	and organizational development
"a just-in-time strategy" (p. 229)	Weick (1987)	Management
"There is no split between the composition and performance; no split between creator and interpreter; and no split between design and production" (p. 6)	Weick (199a)	Management
"Improvisation implies attention rather than intention drives the process of designing" (p. 351)	Weick (1993b)	Management
"Thinking and doing unfold simultaneously" (p. 19); "Retrospective sense making" (p. 19)	Weick (1996)	Firefighting management

SI has been identified as an important concept in today's organizations management as it helps in innovation, flexibility and prudent change management that help organizations in coordinating and meeting conflicting demands of its stakeholders (Leybourne, 2006). Additionally, improvisation is an important concept used by individual employees, teams and organizations in confronting turbulent environments (Nisula, 2015). It is a valuable tool utilized in exploring new opportunities to address the uncertainty facing organizations by creating new ideas (Fisher & Amabile, 2009). SI is not all about unforeseen or uncertainty, but also, issues that require immediate response that cannot be solved using the status quo (Moorman & Miner, 1998a; Weick, 1993). It has also been linked with the issue of time, especially in a situation of pressurizing demand (Leybourne, 2009).

In their research on new product development, Moorman and Miner (1998) identified some categories of improvisation, which "collective vs. individual; product vs. process; and behavioural vs. cognitive". Collective improvisation is a situation in which improvisation occurs as a result of the collective effort of individual within the organization. While individual occurs when improvisation is as a consequence of the idea and effort of a single employee in the organization. The product aspect deals with a situation in which improvisation affects the physical nature of the goods in the organization, while the process deals with attitude, character, and content and how other sequence of routine occurs (Miner et al., 1997; Moorman & Miner, 1998). Behavioural improvisation is associated with a distinct and noble effort that will affect organizational outcomes while cognitive refers to new understanding and response to external stimuli. Accordingly, Weick (1979, 1998) also identify level of jazz performance, which are “Interpretation” a situation in which work is done strictly following the original plan, “embellishment” is a situation in which plan is followed to some certain extent i.e. not strictly follow, “Variation” a situation in which a new unplanned action is merge with the original plan, and finally, “improvisation” a situation in which there is total and absolute departure from the original plan.

SI occurs at both individual and organizational level (Hadida & Tarvainen, 2014a; Hatch, Shrivastava, Huff, & Dutton, 1997; Preston, 1991). It is individual when it happens within one individual e.g. firefighters, teachers, athletes, musicians are all situation where individual improvise (Moorman & Miner, 1998b), and organizational when it involves different authoritative actors in the organization such as groups, department or units or the whole organizations (Moorman & Miner, 1998b). It is suggested that interaction among individuals who engaged in improvisations within an organization lead to organizational improvisation (Hutchins, 1991; Mangham, 1986).

Studies on SI are serious lacking in empirical studies especially in the effectiveness of the concept, consequences and its trigger within the organizational settings (Cunha et al., 1999; Leybourne, 2009b; Moorman & Miner, 1998b; Vera & Crossan, 2005). The early empirical study on organizational improvisation has been attributed to (Moorman & Miner, 1998a, 1998b). Hence, the need further expands its effect to public sector, especially the HEIs in Nigeria, because improvisation is not limited to situations of time pressure, but that it is present in daily interactions in firms, irrespective of firm size or industry (Krylova, Vera, & Crossan, 2016).

2.7 Entrepreneurial Self-Efficacy (ESE)

To understand the concept of entrepreneurial self-efficacy, there is need to define the general self-efficacy concept. Self-efficacy originated from a social learning theory (Albert Bandura, 1977), and has become an important construct in social psychology research (Mauer, Neergaard, & Linstad, 2009). However, it has been used in the diverse field of studies such as human resource theory, cognition and behavioural theory, organization theory and identity theory (Mauer et al., 2009). In addition, the ESE has been used in testing various variables such as leadership (Manojlovich, 2005; McCormick, 2001), performance (Pillai & Williams, 2004; Walumbwa et al., 2011), commitment (Evans & Tribble, 1986; Tannenbaum, Mathieu, Salas, & Cannon-Bowers, 1991), innovation (Ghaith & Yaghi, 1997; Guskey, 1988) and business start up (Drnovšek, Wincent, & Cardon, 2010; Sequeira, Mueller, & McGee, 2007). Self-efficacy has been defined as the individual belief and ability to regulate, control, motivate his or her feeling and behaviour toward attainment of certain identified goals (Albert Bandura, 1986, 1993) and has been associated with personality trait (Littunen, 2000).

According to Bandura (1982) self-efficacy is the cognitive resources as well as a situation-specific construct that differs between individuals. Self-efficacy is an important concept in explaining the behaviour of an individual (Chen, Gully, & Eden, 2004), as it identifies the strength, determination, and perseverance to overcome obstacles in putting an idea into action (Wood & Bandura, 1989). Mcgee, Peterson, Mueller and Sequeira (2009), states that self-efficacy captures an individual's perception of their ability to successfully perform a variety of tasks across a variety of situations (p. 969). Hence, self-efficacy is a personal judgment that explain "how well an individual can execute courses of action required to deal with prospective situations" (Bandura, 1982 p. 122). Its influence on cognition and behaviour have been widely established (Albert Bandura & Locke, 2003; Hmieleski & Corbett, 2008).

The general assumption is that self-efficacy increases with experience and is highly related to actual ability (Phillips & Gully, 1997), therefore, the more experience of an individual the higher the self-efficacy. Thus, self-efficacy influence the ability of a person to think positively or negatively with respect to a target or goal set, determine the level of commitment with regards to the expected outcome as well as the ability to face the challenges associated with the task (Bandura, 1997).

Prior studies in organizational behaviour and psychology has established a relationship between entrepreneurs and organizational performance (James D. Adam, 2004), which is as a result of the knowledge, values and skills they possessed and used for the success of the organization (Ruzzier, Antoncic, Hisrich, & Konecnik, 2007). Similarly, self-efficacy to performance at the individual (Jung, Ehrlich, De Noble, & Baik, 2001). Moreover, the concept of self-efficacy has been used in terms of entrepreneurial activities (Boyd & Vozikis, 1994; Pihie & Akmaliah, 2009; Wilson, Kickul, & Marlino, 2007). In fact, Scherer, Adams, Carley and Wiebe (1989) postulate that self-efficacy is central to entrepreneurship intention as well as opportunity recognition.

However, Chandler and Hanks stated that previous research fails to provide conclusive and consistent results due to different operationalization and conceptualization of the self-efficacy construct (as cited by Jung et al., 2001). Following this conclusion Gartner (1989) advocate for more grounded theory in entrepreneurship to further understand the construct. Thus, led to the development of the concept of Entrepreneurial self-efficacy (ESE) (De Noble, Jung, & Ehrlich, 1999). Additionally, Pajares (1997) also stated that "predictability of the self-efficacy construct would only be possible when it is tailored to [the] domain(s) of functioning being analyzed and reflect the various task demands within that domain" (p.8).

Chen, Greene, and Crick (1998) have been identified as the pioneer developer of the ESE construct (Forbes, 2005). Entrepreneurial self-efficacy (ESE) has been defined as a person's beliefs in the ability to successfully engage and achieve the task associated with entrepreneurship (Boyd, Gove, & Hitt, 2005; Chen et al., 1998; Jung et al., 2001). These activities are divided into three main categories, managerial, functional and technical skills, with subdivision dimensions such as developing new product and market opportunities, building an innovative environment, initiating investor relationships, defining core purpose, coping with unexpected challenges, and developing critical human resources (De Noble, Jung, & Ehrlich, 1999).

ESE is an important construct in entrepreneurship research and has been identified as a key variable predicting behaviour and performance (Forbes, 2005; Hmieleski & Corbett, 2008). In fact, ESE has been identified as an important construct in determining individuals willingness to engaged in entrepreneurial activities (Forbes, 2005). Also, experience and knowledge have been identified as major predictors of entrepreneurial self-efficacy (ESE). In addition, researchers have shown a great concern for self-concept in entrepreneurship as it does not only predict entrepreneurial action but also the outcomes of the work (Farmer, Yao, & Kung-Mcintyre, 2011; Hoang & Gimeno, 2010; Krueger, 2007; Shepherd & Haynie, 2009).

2.8 Corporate Entrepreneurship

Corporate entrepreneurship (CE) is essential for organizational survival, growth, and profitability (Shamsuddin, Othman, Shahadan, & Zakaria, 2012). Thus, researchers have found CE to be an important solution to the lack of innovativeness that leads to competitive advantage within the organization (Kuratko, Montagno, & Hornsby, 1990). CE helps organization to create, maintain and sustain competitive advantage that will enhance performance through a calculated risk taking culture (Ireland, Kuratko, & Morris, 2006; Zahra, Filatotchev, & Wright, 2009). It has also been identified as one of the key factors that organization uses to aggressively create value through identification of new opportunities as well as pursuing them (Jacobson, 1992). The reason is that CE have been established as an integral part of the firm strategic management

(Barringer & Bluedorn, 1999), that involves pro-activeness, risk taking and innovation as the key element used by established firms (Zahra, 1993).

Although, CE has been of great concern to both academicians and stakeholders for decades (Shamsuddin et al., 2012; Zahra, 1995). There is still ambiguity not only on the terminologies used but also in the definition of the construct (Sharma & Chrisman, 1999; Stopford & Baden-Fuller, 1994). For example, literature has adopted a number of terminologies to describe CE, such as internal corporate venturing (Burgelman, 1983; Garud & Van de Ven, 1992; Zajac, Golden, & Shortell, 1991), intrapreneurship (Antoncic & Hisrich, 2001, 2003; Rule & Irwin, 1988), internal entrepreneurship (Jansen & Van Wees, 1994; Komulainen, Naskali, Korhonen, & Keskitalo-Foley, 2011), new streams (Kanter, North, Richardson, Ingols, & Zolner, 1990) , corporate starts up (Macmillan, Block, & Narasimha, 1986), organization renewal (Baden-Fuller & Volberda, 1997; Sathe, 1989; Stopford & Baden-Fuller, 1994), strategic renewal (Agarwal & Helfat, 2009; Guth & Ginsberg, 1990; Kearney & Morris, 2015), corporate venturing (Biggadike, 1979; Burgelman, 1983) and internal corporate entrepreneurship (Jones & Butler, 1992) among others. However, Pullen, de Weerd-Nederhof, Groen, Song and Fisscher (2009) and Antoncic and Zorn 2004 argues that CE is represented by three major entrepreneurial activities which are corporate venturing, innovation and organizational renewal. The lack of a universally accepted definition may not be unconnected with the infancy of the field of corporate entrepreneurship (Sharma & Chrisman, 1999), however the issue of definition in social sciences is still open for debate (McKelvey, 1982).

Some of these terminologies interchangeably used as corporate entrepreneurship (CE) are defined as follows:

i. Corporate entrepreneurship is the process in which smaller entrepreneurial organizations attributes are stimulated by larger firms to be more matured and competitive (Donald F. Kuratko, Hornsby, Naffziger, & Montagno, 1993).

ii. Antoncic (2001) defined intrapreneurship as the process through which individuals in an organization organized, develop and strategize on developing new ways of doing things that will lead to the improvement or development of new business. The process involves continuous looking for opportunities with regards to resources they control.

iii. CE also refers to as the set of activities engaged by an organizations or individual within the organization, to create new business or market, through innovation, risk-taking and opportunity presented by the market to improve competitive advantage as well as performance (Zahra, 1991).

iv. Burgelman (1983) defined CE as the process in which existing company diversifies its activities through internal development. The idea for this diversification is to grab identified opportunities that will extend or improve its activities.

v. Miller (1983) conceptualizes the construct as a company's commitment to innovation in existing businesses.

vi. Corporate Entrepreneurship (CE) is also defined as both formal and informal activity channel at opening and utilizing new opportunities as a result of strategic renewal, innovation and corporate venturing in the organization (Sharma & Chrisman, 1999).

vii. Corporate entrepreneurship has also been defined as the ability of the firm to be more oriented in terms of risk taking, innovativeness and proactiveness (Barringer & Bluedorn, 1999).

The greater the number of definition, the more evidence the important of a construct and also the more scholars try to include that conept to cover various circumstance and organisations (Sharma et al., 1999). Apart from the issue of definition facing CE construct, there is the issue of identify were and what actually CE reprents in an organisation. Specifically, some scholar (Covin & Miles (1999) are of the view that CE is a situaion were the organisation as a whole is involved, while others argued that both individual and units of organisations can engaged in CE (Sharma & Chrisman 1999). They argued that CE occurs only because of the influnce of the individual in relation to the organiation, hence, impossible to ignore one part as they play supportive role in ensuring success of CE. Conclusively, it is generally acknowledged that individual development of new business venture is refer to as entrepreneur, while a group of individual (s) engaging in creation of value through identifying, utilizing and exploiting the opportunities that will enhance the organization performance is called CE (Ağca, Topal, & Kaya, 2012).

Accordingly, the ambiguity associated with the definition of CE has also affected the process through which it occurs. Specifically, Zahra, Nielsen and Bogner (1999) stated that CE occurs both formally and informally, hence, one occurs as a result of individual decision (informal) to engage in entrepreneurial activities in the organisation, while the other is designed by the organisation (formal). In essence, individual ability or decision to violate the organisational norms and principles without any formal or informal approval from the management, which is later transferred to their subordinate or colleagues is referred to as informal CE. Interestingly, this is the bottom line process of developing CE, since this individual decision is transform for the benefit of that organisation. On the other hand, we have the formal CE, were directives and approval to engage in any entrepreneurial activities within the organisation comes from the management. Consequently, processes, resources and activities are strategized towards innovation and renewal in line with the commitment of the organisation (Zahra, Nielsen, & Bogner, 1999). However, only few CE is formal in nature. Conversely, informal is more prevalent as a result of creativity or self-interest, which may later end up receiving the blessing and recognition of the larger organization.

Moreover, corporate activities have been identified to occur both within (internal) and outside (external) the organizations (MacMillan & Day, 1987). The internal activities are classified as development that occur within the larger organization market that involve small and independents units in improving, expanding as well as innovating new means (process) of producing the expected outcome within the organization (Nielsen, Peters, & Hisrich, 1985). On the other hand, external activities involve an outsider forming an alliance such as joint ventures, mergers and acquisitions. The present study adopts Sharma and Chrisman (1999) definition of CE "is the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization".

2.9 Organizational Culture

Organizational culture (OC) has been identified as one of the dominant variable that have been in the literature for various years and has been defined differently by different scholars and context (Davies, Nutley, & Mannion, 2000; Gorondutse, 2014; Harris & Ogbonna, 2002; Kale, 1991). OC is such an important variable that has been used both as a dependent and independent variable (Turker & Altuntas, 2015). Also, Culture has been identified as an indispensable organizational capability that creates a unique organizational competitive advantage better than the rival (Barney, 1986; Hall, 1993; Peteraf, 1993). Furthermore, OC is considered by many scholars to shape organizational procedures (Deal & Kennedy, 1983; Jarnagin & Slocum, 2007), through the coordination and direction of organizational capabilities (Day, 1994) that provides solutions to numerous problems facing the organizations (Schein, 1984). Also, Ouchi as cited in Goddard (1997) and Pool (2000) stated that culture is an important component in designing, planning and running of organizations.

Furthermore, OC have been identified as an influencing factor in terms of determining how people think (consciously and subconsciously), that serves as a guidance in shaping the perception and behaviour of the organizational members (Deshpande et al., 1993; Hansen & Wernerfelt, 1989; Schein, 1990). Organizational culture has been used in a wide range field and context such as values, beliefs, myths, assumptions and behaviour that define the character and characteristics of an organization. Despite this wide range of acceptance and significance of OC, there is little agreement in respect of its definition, measures and methodology through which it can be used in respect to organizational change and routine administration (Scott, Mannion, Davies, & Marshall, 2003). The disagreement may not be unconnected with the fact that OC involves many aspect that are intangible in nature (Jreisat, 1999).

According to O'Reilly (1989) OC is the way and manner in which organization can meets and satisfy customers requirement, coupled with how well organizational member "fit" within the organization. According to Phatak (1995) OC is the way of life of people in a particular cluster. It comprises of norms, value, belief, knowledge, moral and other behaviour people accepted within a given society. OC also refers to the general way of life of a group of people. Organizational culture is also defined as the values and belief shared by member of an organization, which must confer with the accepted behavioural norms that are capable of solving a particular problem (Daft; Goffee & Jones as cited by Gorondutse, 2014; Yiing & Ahmad, 2009).

Similarly, Deshpande and Webster (1989) defined OC as "the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with norms for behaviour in the organization". OC is a valuable tool that provides direction and guidelines to organization, unite the abilities and activities of the whole organizations in order to identify and solve problems to achieve the needed and desired objectives (Cameron, Freeman, & Mishra, 1991; Smircich, 1983). OC is also defined as "a pattern of shared basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 1999 p.18).

Lai and Lee (2007) are of the opinion that OC is the comprehensive values within a particular organization that encourages values, opinion, preference and response. According to Cameron & Quinn (1999), OC is the underlying assumptions, values and beliefs that help in differentiating organizations and its members from other organizations, while Chin-Loy, Mujtaba and Dastoor (2007), and David and Fahey (2000) viewed OC as the behaviours of the individual within the organizations that is been determined by certain values, norms, moral and belief accepted in that organization. Similarly, OC was defined as the belief, values, norms, attitude and behaviour that describe the organizational working environment as well as its vision and objectives (Calori & Sarnin, 1991; Hofstede & Hofstede, 2001; Hofstede, 1984).

According to Deal and Kennedy and Peters and Waterman (as cited in Crawford & Lok, 2004), OC have been identified as an organizational factor that have a significant influence especially in areas of commitment and performance. Also, fruitful and efficient leadership system have been attributed to OC which help managers in understanding OC therefore possessing the ability and skills to effects strategic development that will enhance learning and productivity (Twati & Gammack, 2006). In addition, Wilson (2001) in trying to further developed Schein (1984) idea identified four factors affecting organizational culture, they are the business environment, formal socialization practices, informal organizational practices, and leadership.

2.10 Underpinning Theories

Theories are very vital in any research as it helps in shaping and providing direction for the study. Two theories resource-based view (RBV) and social cognitive theory (SCT) respectively was used in this study.

Resource-based view (RBV) is one of the major theories used in explaining and understanding firm strategy especially in emerging economies (Hoskisson, Eden, Lau, & Wright, 2000). RBV is fundamental in explaining process that can be used in addressing pressing issues in an organization: thus, the rise of what is referred to as competitive advantage and how it can be utilized for survival and sustainability (Srivastava, Fahey, & Christensen, 2001). Its origin can be traced back to (Penrose, 1959), that emphasized on the significance role of resources in achieving and maintaining organizational performance. A better explanation of the RBV was provided by Barney (1991), that organizational resources includes assets and capabilities, characteristics, knowledge as well as the procedure used in formulating and implementing competitive strategies. In essence RBV perceives "firm as a unique bundle of idiosyncratic resources and capabilities where the primary task of management is to maximize value through the optimal deployment of existing resources and capabilities, while developing the firm's resource base for the future" (Grant 1996 p. 110).

RBV has become one of the major dominant theory in management courtesy of the work of (Barney, 1991; Wernerfelt, 1984). RBV deals with how firm can use its available resources towards gaining and maintaining competitive advantage (Barney, 1991; Wright, McMahan, & McWilliams, 1994). These resources must be unique in nature as well as difficult for competitors to copy (Barney, 1991; Conner, 1991; Peteraf, 1993; Wernerfelt, 1984).

Despite the acceptability of the RBV it is still difficult to find single general accepted definition, thus, the interchangeable use of resources and capabilities (Christensen & Overdorf, 2000; Gold & Arvind Malhotra, 2001). However, Schoemaker and Amit (1993) argued that firm resources include organization assets possessed and control by the organizations, while capabilities is the ability to efficiently and effectively use the resource to benefit the organization.

Therefore, firm resources should serve as a leverage that will give them a peculiar benefit that will lead to overall organizational performance.

These resources have been classified differently by many researchers such as Fahy and Smithee (1999) and Fahy (2000), Mills, Platts and Bourne (2003). In their classification, Mills et al. (2003) identify two major types of resources tangible and intangible; while the duo of Fahy and Smithee (1999) went further to add capabilities as the third classification of resources. The tangible includes cash, structures and other physical resources that can be seen or touched, while the intangible includes network, innovation, human resource and goodwill. However, Wright et al. (1994) went further to classified the human resource in to two major components that include competencies (i.e. knowledge, skills and abilities) that an individual possessed and characteristics of individuals in terms of productive and positive behaviour display by employee in the organization.

RBV was use as the underpinning theory in this study, which explains the relationship that exists between organizational resources that will lead to sustainable and superior performance (Barney, 1991; Fahy, 2000; Ringim et al., 2011). The intangible aspect of the RBV will be the main focus of the theory, this include innovation, reputation and managerial skills such as strategic improvisation, entrepreneurial self-efficacy employed by organizations to achieve sustainable competitive advantage (Barney, 1991; Mills et al., 2003). These are internal capabilities that will help organizations in responding to turbulent environment at any given time. In addition, other traditional resources such as technology, infrastructures are easy to imitate and will not last long because of the nature of the environment, as such RBV identified human resources very vital in ensuring value and organizational effectiveness. Thus, using its strength and capabilities to implement and formulate strategies such as (improvisation) and behaviour (entrepreneurial self-efficacy) to remain relevant in this turbulent environment.

A lot of researchers have articulated the fundamental assumptions of the RBV theory in terms of organizational resources and performance (Barney, 1991; Jay Barney, Wright, & Ketchen, 2001; Wernerfelt, 1984). Thus, Wernerfelt (1984) posit that for organizational sustainability and performance critical resources are highly needed. Corporate entrepreneurship (CE) is an important means for inducing innovation, revitalizing organizations, and enhancing productivity. It is also the source of new knowledge that allows companies to create capabilities to enter new markets and achieve growth (Zahra,2015).

Social cognitive theory (SCT) originated from the work of great American psychologist Albert Bandura who was a former president of American Psychological Association of America in the early 1970s (Kura, 2014). Bandura (1977) defines the concept of self-efficacy as the individual believe and ability to fully take charge in organizing and efficiently executing or putting that plan into action that will produce attainments. SCT postulates that the relationship that exists between behavioural, cognitive and environmental is reciprocal in nature (Bandura, 1977, 1982, 1989). Thus, posits that individual learning occurs both from the work environment through modelling, imitation and observation. Bandura's cognitive theory (1986) went further to explain that a relationship exists between an individual behaviour, personal factors in terms of cognitive skills or attitude with the environment. All these can impact or be impacted to one another as well as also influence each other.

SCT posits that individual has an absolute self-beliefs that help him in exercising some measure in controlling its feelings, thought and actions, thus, the general assumption of the theory is that peoples behaviour is affected by how they think, what they believe and how they feel (Bandura, 1986). However, these assumptions deviate in totality with other psychological theories of learning, which stated the only means of learning is through direct experience. Bandura is of the view that human beings does not exists or lives in a vacuum, as such they must relate and interact with the environments and social systems which in turn influence their behaviour immensely.

Conclusively, SCT is a socio-psychological in nature that has gain an acceptable recognition within the entrepreneurship domain, because its incorporate the influences of both individual and environmental factors in its assumptions (Gartner, 1989). In addition, there is some kind of stability of self-efficacy in the long run, thus, highlighting the possible enhancement of the interaction of individual self-efficacy and the environment.

2.11 Leaders' Strategic Improvisation and Performance

The important of creativity to organizational renewal and adaptation in these dynamic and unpredictable environment cannot be overemphasized (Burroughs, Dahl, Moreau, Chattopadhyay, & Gorn, 2011). SI has been identified as one of the ways in which organizations can cope with the rapidly environmental changes to achieve creativity, because it allows flexibility and adaptability (Bakar, Mahmood, & Ismail, 2015; Miner et al., 2001; Vera & Crossan, 2005). A lot of studies have been conducted in relation to strategic improvisation and performance. For example, Arshad and Hughes (2009) examined the role of strategic reasoning and managerial factors to the organizational improvisation of top management of technology-based organizations. Despite distributing more than 1000 questionnaires, only one hundred and twenty-eight were usable. The primary objective of the study is to examine how strategic reasoning and managerial factors will influence organizational performance through effective strategic improvisation. However, the study provides a mixed result, establishing a significant relationship between rational reasoning and managerial factor and organizational improvisation. The study also established an important relationship between organizational improvisation and organizational performance, but there is no connection between rational reasoning and organizational improvisation.

Vera and Crossan (2005) in their study on how improvisation affects innovative team performance using moderating variables establish a relationship beyond individual to team and organizations. Their findings also confirmed a positive effect on the relationship between improvisation and team innovation, especially when moderated by team and contextual factors. However, the study also stated that improvisation may not be considered as right or wrong, it just depends on the way and manner in which it was used. In another study, Baker, Miner and Eesley (2003) using a sample of three young firms, examined the role of bricolage, improvisation, and action giving towards process of creating new venture. The findings clearly explained that improvisation is part and parcel of the entrepreneurial process, which can produce both good and bad to the organization as such need to be used strategically and not haphazardly.

In view of extending the team improvisation model by testing it in the product innovation Akgün and Lynn (2002) established that new product development in team improvisation has a positive significant with speed to market under turbulent market and technology conditions. The study also found that an organization with clear goal reduces the possibility of engaging in improvisation. Thus, organizations with the ability to speed up new product to the market will undoubtedly improve their performance, because speed to market in term of new product development have been identified as the primary tools used by companies wishing to win in 2000 and beyond (Cooper & Kleinschmidt, 1994; Gupta & Wilemon, 1990).

Furthermore, Akgün, Byrne, Lynn and Keskin (2007) also conducted a similar study on the impact of team improvisation and unlearning on new product success (Market performance). The study utilizes 197 new product development projects to generate data while structural equation model was used for the analysis. The main findings of the study indicate that team unlearning was positively affected by environmental turbulent, while unlearning also affect team improvisation. In the same vein, team improvisation also affects new product development success (market performance) as a result of utilizing new knowledge acquired through unlearning and improvisation.

Leybourne and Sadler-Smith (2006) examined the role intuition plays in project management in relation to improvisation and projects outcome success. The study utilized a sample of 521 project manager in the UK using a cross-sectional survey design. Their findings reported a mixed results, by establishing that positive relationship exists between both intuitive judgments and experience with improvisation. Also, a positive correlation was found between experience and intuitive judgments, likewise between intuitive judgment and externally focused projects success. However, the study used improvisation to mediate the relationship between intuition and project success failed to establish any significant association. In a longitudinal study Moorman and Miner (1998) reported an existing relationship between improvisation and product success, as a performance measure indicator of new product development. However, the relationship exists only when turbulent and real-time information was used as a moderating variable in the model.

The study of Hmieleski and Corbett (2008) failed to establish any direct relationship between entrepreneur improvisational behaviour with both new venture performance and work satisfaction. Consequently, a positive correlation exists when entrepreneurial self-efficacy is used as a moderating variable between entrepreneurs' behaviour and new venture performance while a negative correlation was found between entrepreneur's behaviour and work satisfaction. In another study, Hmieleski and Baron (2008) examines the relationship between individual improvisational behaviour (optimism), environmental (industry dynamism) and performance. In consistent with other findings, the study also established that improvisational behaviour does affect organizational performance, but the strength and effect depend on the individual optimism and environmental situation (stable or dynamic).

Hmieleski, Corbett and Baron (2013) used dispositional and environmental factors as a moderating variable on the relationship between entrepreneurs' improvisational behaviour and new firm performance. The sample of the study is made up of 207 entrepreneurs that are CEO and founders in their organizations. The findings of the study indicates that in a dynamic environment, there exist a significant more negative relationship between improvisational behaviour and firm performance. In disparity, in a stable environment the finding indicates a more positive behaviour between entrepreneurs' improvisational behaviour and firm performance. Conclusively, improvisational behaviour coupled with some realistic form of optimism may play a significant role in entrepreneurial action especially in an unpredictable and dynamic environment. Bergh and Lim (2008), also conducted a study on the abortive capacity and improvisation from the organizational learning point of view using a sample of 205 companies that announced and also implement restructuring actions. The main finding of the study was that both absorptive capacity and improvisation have an influence on subsequent restructuring (spin off) and performance, thereby establishing a relationship with improvisation and organizational performance.

Bakar et al. (2015) in their study trying to establish the impact of strategic improvisation and knowledge management on performance using a sample of one hundred and thirty-one registered SME's owner and managers. The data was analysed using PLS in which the finding indicate that both knowledge management and strategic improvisation improve performance. In a similar study Bakar, Mahmood and Ismail (2015b) also established how entrepreneurial orientation, strategic improvisation affects performance using a sample of one hundred and forty owners and managers of SMEs. The data was analysed using PLS 3.0 to test the hypothesized research model. The study also found a significant relationship of both entrepreneurial orientation and strategic improvisation with firm performance.

A longitudinal study conducted by Nisula (2015) focused on the relationship that exist between supervisors support and individual improvisation using empowerment and self-efficacy to mediate the relationship. The sample of the study was 593 of large municipal organizations and PLS was used for data analysis. The main finding of the study indicates that the supervisor support influence individual improvisation, while both empowerment and self-efficacy were found to be a mechanism for the occurrence of such relationship. Furthermore, since individual improvisation have been identified as significant in dealing with uncertainty and also increasing novelty within the organization, managers in all type of organizations are expected to pay attention to how individual improvisation can be increase (Nisula, 2015).

In a recent study, Tseng, Lee and Chu (2015) trying to understand if business performance will be enhanced by firms outside environment and inside ability with improvisation capabilities as a mediator using a sample from a three-year survey of senior or chief information system managers. The finding indicates that e-commerce processing positively affect improvisational skills, which will induce internal processing performance, customer satisfaction, increase learning and growth as well as financial performance. In essence, organizations are expected to develop a means of fostering individual improvisation within the organization to help in meeting the organizational goals. Similarly, Arshad, Razalli, Julienti, Ahmad and Mahmood (2015) have reported a positive and significant relationship between performance and strategic improvisation in government linked companies. In a more recent study, Secchi, Roth and Verma (2016) establishes that customers satisfaction increases with the rate at which hotel employees are allowed to improvised, which invariably enhances the organisations performance. Furthermore, Yeboah Banin et al. (2016) using decision making theory also establishes that salesperson improvisation is positively related to sales performance. They argued that sales person behaviour is mostly not in line with the design script, however, mostly on the environment, resource and the perception of the customer's readiness to buy.

In essence, studies such as (Arshad, 2011; Arshad, Razalli, et al., 2015; Bakar et al., 2015a, 2015b; Bingham, 2009; Hmieleski & Corbett, 2008; Mahmood &

Bakar, 2016; Nisula, 2015; Secchi et al., 2016; Yeboah Banin et al., 2016) have established a positive and significant relationship between strategic improvisation and performance, thus, the study hypothesized that:

H1: There is a positive relationship between leaders' strategic improvisation and tertiary institutions performance in Nigeria.

2.12 Entrepreneurial Self-Efficacy and Performance

Self-efficacy is a task specific construct extended into the entrepreneurship domain (Boyd & Vozikis, 1994; Chen et al., 1998). Entrepreneurial self-efficacy has been identified as an important variable in explaining entrepreneurial intention and the possibility of putting the idea into action (Boyd & Vozikis, 1994; Markman, Balkin, & Baron, 2002). Thus, ESE affects organizational performance, as it ignites the desires, interest and motivation toward entrepreneurship (Baum, 2001; Chen et al., 1998; Krueger, Reilly, & Carsrud, 2000), it also affect how ventures can be managed effectively (Forbes, 2005). Empirical entrepreneurship studies have shown an existing relationship between self-efficacy and performance (Albert Bandura & Locke, 2003; Judge & Bono, 2001; Stajkovic & Luthans, 1998), but have been considered to have no beneficial effect (Torres & Watson, 2013).

Many studies have established the relationship between ESE and performance. Hmieleski and Baron (2008) in their study on entrepreneurial self-efficacy using a sample of 1000 CEOs who are also owners of the organization using questionnaire and structural equation model for data analysis. In the study, ESE shows a positive relation with firm performance. They also posit that the effect of the entrepreneurial self-efficacy is more in a dynamic environment. Forbes (2005) conducted a study on the impact of entrepreneurial self-efficacy has on strategic decision making, employing a sample of 719 internet ventures. The study used survey questionnaire to generate the require data while ordinary least square was used for the analysis. The study provides exploratory evidence on the linkage between ESE and subject performance.

Similarly, Anna, Chandler, Jansen and Mero (2000), conducted a similar research on the self-efficacy of traditional and nontraditional business women to ascertain the difference that exists between them as well as their success or business performance. The study is triangulation in nature, using both survey and in-depth interviews to generate data. The result of the study highlighted the existence of a difference between traditional and non-traditional business women, in addition to a positive relationship between ESE and subject performance.

Lindsay and Balan (2005) using a sample of three hundred business manager also reported that ESE is positively related with business performance. They posit that when an individual is in doubt of his ability he rarely performs at its best, thus explaining the relationship between ESE and performance. Weidong, Dahai and Lihua (2007) examined the influence of individual and external factors on performance of new high technology ventures, using a sample of 141 entrepreneurs of new high technology ventures in China. The study reports a direct positive relationship between ESE and performance of new high technology ventures.

Also, Baum et al. (2001) conducted a study on the causes of venture growth drawing from various theories to develop a model of venture growth. The study uses 17 concepts from diverse micro and macro research areas. The study used a sample of 307 from the wooding industry to test CEO's particular competence and motivation with venture growth. The result clearly highlighted a positive relationship between CEO's specific motivation (self-efficacy) inclusive to venture growth. The finding is consistent with that of Hmieleski and Corbett (2008), where the effect of ESE on new venture performance and entrepreneur's satisfaction was also established. The study utilizes survey method to generate data by randomly sampling 159 entrepreneurs. The study provides a positive relationship between ESE and new venture performance as well as works satisfaction. However, this relationship differs between entrepreneurs in dynamic and stable environment.

Moreover, Jeraj and Marič (2013) conducted a similar study on entrepreneurial curiosity and ESE using entrepreneurs who are managers or have participated in the formation of the business as their respondents. The sample includes 13,679 entrepreneurs from two countries, but only 642 responses. They study proved the existence of relationship between entrepreneurial curiosity and entrepreneurial self-efficacy. In the same vein the study claimed that both entrepreneurial curiosity and entrepreneurial self-efficacy merge together motivate an individual to invest in entrepreneurial task with dedication and commitment that will ensure good result (performance). In addition, Torres and Watson (2013) examined the link between managers self-efficacy, entrepreneurial intention and performance of small businesses in Mexico. The study main objectives was to validate the construct developed by (Chen et al., 1998) using business owners and managers utilized data collected from a sample of 97 business owners and managers. The result reveals that ESE leads to performance of small businesses in Mexico. Interestingly, the study also provides an additional clue to their understanding of ESE and its role in organizational performance and development. They conclude that organizational performance actually requires managers with high self belief to fully perform risky tasks and functions associated with their job.

In trying to expand the concept of ESE Hallak, Assaker and O'Connor (2012), conducted a study within the tourism management to examine the relationship between ESE and performance differences between family and nonfamily business. The study uses the structural model and a sample of 158 and 143 of family and nonfamily respectively of SMEs in South Australia. A multivariate analysis was conducted to see if any difference exists in the model between family and nonfamily business. The finding indicates that ESE is positively related to performance within the small and medium tourism enterprise (SMTEs). The results of this study is also same with two similar studies conducted by (Hallak, Brown, & Lindsay, 2012; Hallak, Lindsay, & Brown, 2011). All the studies advocate for the need to identify and encourage ESE in organisations if they really want their business to perform and also sustain that performance.

Bratkovic, Antoncic and DeNoble (2012) conducted an investigation how networking and ESE affects the performance of Slovenian companies. The sample of the study was drawn from 161 entrepreneurs, using both face to face, interaction based and well-structured questionnaire to generate data. The findings of the study using multiple regression was contrary to the proposed assumption of a significant relationship between ESE and firm growth using sales growth and market share as the determinant of firm growth. The study only reveals an important association between ESE and market share, with no such relationship between sales growth and ESE. Similarly, Lindsay, Lindsay, Jordaan and Mapunda (2007) conducted a similar study in South Africa with a sample of one hundred and sixty-six nascent entrepreneurs. The study is also in line with other ESE studies, establishing a significant relationship between self-efficacy and individual success. The finding of the study is a major step in extending the ESE-organizations performance relationship because individual success will bring about job satisfaction that will improve success (performance) (Shane & Venkataraman, 2000). In another study conducted by Gemeda (2014) reported and established positive relationship with all psychological factors (entrepreneurial self-efficacy inclusive) with personal success.

Again, a study by Cassar and Friedman (2009) investigated the effect of self-efficacy on entrepreneurial investment using 64,622 households identified through dialling method. The study established that ESE increases the amount of wealth and hours per week invested in the business, which will invariably increase the search for entrepreneurial opportunities and likely performance. In a similar study Lope Pihie and Bagheri (2011), using teachers to identified the role of ESE on students to engage in venture creation after leaving school. The study also established that teachers have a positive attitude and high ESE toward entrepreneurship. This indicate that teachers with high ESE will have the possibility of engaging in real entrepreneurship to have the practical idea on how to impact such to their students to engage and cope with the challenges associated with venture creation (Chen et al., 1998; Zhao, Seibert, & Hills, 2005).

However, a study conducted by Poon, Ainuddin and Junit (2006) on the effects of self-efficacy traits on firm performance using a sample of 104 entrepreneurs with entrepreneurial orientation as a mediator. The study reported mixed findings with internal locus control having a positive significant relationship with performance, while the general self-efficacy has no direct relationship with performance. However, self-efficacy can positively influence performance through entrepreneurial orientation. Chandler and Jansen (1997) conducted longitudinal study using social cognitive theory to test the relationship between founder self-efficacy (entrepreneurial self-efficacy, managerial self-efficacy and technical self-efficacy) on emerging venture performance. The study also fails to establish any relationship between both entrepreneurial and managerial self-efficacy with performance. However, managerial self-efficacy was found to be significant predictor of performance.

In another study Hallak, Assaker and Lee (2015) examines the effects of ESE, gender and place identity on tourism entrepreneurship performance. Three theories were drawn from environmental psychology, social psychology, and entrepreneurship to examine the relationship and also identify the difference that exists between male and female owner of tourism business. A total sample of 298 was taken from male and female tourism business owners in Australia. The study found that ESE is positively related to performance and the relationship was greater in the male group as compared to the female group. Furthermore, the study also found that the assumption of a reciprocal relationship between ESE and performance does not exist within the tourism industry. Recently, a meta-analysis by Miao, Qian and Ma (2016) also confirm that ESE positively affects performance. Moreover, the study also established that no statistical differences exist between general self-efficacy (GCE) and ESE.

Lazear (2002) posit that entrepreneurs are most vital players in today's modern economy. Thus, we also assumed that entrepreneurs especially those with entrepreneurial self-efficacy are the key to organizational performance by influencing their interests, motivations, and perseverance levels (Chen et al., 1998). In fact, entrepreneurs have been identified as the main engine of any entrepreneurial process framework success (Donald F. Kuratko, Morris, & Schindehutte, 2015). In addition, studies such as (Baum et al., 2001; Cassar & Friedman, 2009; Cumberland, Meek, & Germain, 2015; Hallak et al., 2012; Hallak et al., 2015, 2011; Jeraj & Marič, 2013; Khedhaouria, Gurău, & Torrès, 2015; Weidong et al., 2007) have all established the existence of positive relationship between entrepreneurial self-efficacy and performance, therefore, the present study hypothesized that:

H2: There is a positive relationship between leaders' entrepreneurial self-efficacy and performance.

2.13 Corporate entrepreneurship as a Mediator

Corporate entrepreneurship (CE) has been identified as an important activities that emphasized the need for the exploitation of new opportunities that will lead to the development of new products or services for organizational renewal or even creating new business (Schmelter, Mauer, Börsch, & Brettel, 2010; Zahra, 1996). Several studies have established the important of CE to organization competitive advantage, sustainability and performance, just the way many studies (Barringer & Bluedorn, 1999; Nohria & Gulati, 1996; Zahra, 1996) identified several antecedences to corporate entrepreneurship. CE is defined as the entrepreneurial activities within an organization (Antoncic & Zorn, 2004). They stated that CE is not only about venture creation but also product or service innovations as well as strategies that enhance competitive posture. Relationship between CE and performance has been considerable researched especially within the business cycle (Antoncic & Hisrich, 2004; Foss, Lyngsie, & Zahra, 2013; Kaya, 2006; Kelley, Ali, & Zahra, 2013; Naman & Slevin, 1993; Zahra, 1991, 1993, 1995).

For example; the study of Oghojafor, Kuye and Sulaimon (2011) using a sample of 670 manufacturing firms established a significant relationship between CE and firm performance in Nigeria, the study also highlighted a key difference between entrepreneurial firms performance and that of conservative, with a call for organizations in Nigeria to demonstrate high commitment to entrepreneurship. Karacaoglu, Bayrakdaroglu and San (2012), conducted a similar study on 140 manufacturing industries in Istanbul Turkey on the role of the CE on financial performance. The finding indicates that the three original dimensions' risk taking, innovation and pro-activeness were positively related to financial performance, while the two added dimensions of autonomy and competitive aggressiveness were found not to be significant.

Furthermore, a considerable number of studies (Adam, 2005; Bakar et al., 2015a, 2015b; Hmieleski & Baron, 2008; Hmieleski & Corbett, 2008) have established a relationship between ESE and performance. Moreover, other studies (Chen, Greene, & Crick, 1998; De Noble, Jung, & Ehrlich, 1999; Krueger, Reilly, & Carsrud, 2000) have revealed the existence of a relationship between ESE and starting of new business (CE). In addition, ESE has been identified as distinct characteristic of an entrepreneur (Chen et al., 1998). In fact entrepreneurial self-efficacy is seen by many researchers as antecedence for new venture intention (CE) (Barbosa, Gerhardt, & Kickul, 2007; Mcgee et al., 2009; Zhao et al., 2005).

Similarly, the concept of improvisation appears to have vital implications for various organizational phenomena, such as creativity, product innovation and organizational renewal and adaptability (Kamoche, Cunha, & Cunha, 2003). Strategic improvisational behaviour has also been identified as the process of deviating from an existing traditional practice of doing business (Antoncic & Hisrich, 2004).

Conclusively, the role of leaders in CE has been considerably document within the literature. Studies (Schmelter et al., 2010; Zhang & Jia, 2010) have stated that the best method of nurturing CE in an organization is through giving employees the nod to pursue opportunities. Accordingly, conducive entrepreneurial environment depend on the autonomy and confidence enjoyed by the employees in solving problems (Chen et al., 1998; Chen, Chang, & Chang, 2015; Kirkman & Rosen, 1999; Mayer, Davis, & Schoorman, 1995). Moreover, risk taking propensity which is associated with success of entrepreneurship activities such as (entrepreneurial self-efficacy) indicates one of the key qualities of leaders is their ability to seize opportunity through improvisation despite uncertainty of success of decision taken (Chen et al., 2015; Javadian & Singh, 2012).

In fact, entrepreneurship is all about risk, as such the ability to take risk substantially determines who become an entrepreneur (Praag & Cramer, 2001) while entrepreneurial behaviour has been linked to performance (Parry & Proctor-thomson, 2003). Bernier, Hafsi and Deschamps (2014) posit that entrepreneurial behaviour are not only vital in producing new improved service and process of meeting public expectation, but also open a new means of generating revenues and resources. In addition, studies have established that individual engaged in entrepreneurial activity spur strategic renewal or corporate entrepreneurship (Guth & Ginsberg, 1990; Kemelgor, 2002).

The present study introduced corporate entrepreneurship as a mediating variable on the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance in Nigeria. Previous studies have established a relationship between CE and performance (Antoncic & Hisrich, 2004; Foss et al., 2013; Kaya, 2006; Kelley et al., 2013; Naman & Slevin, 1993;Zahra, 1991, 1993, 1995). In addition, studies have also established a positive and significant relationship with the three major dimensions of CE (innovativeness, proactiveness and risk taking) and performance (Avlonitis & Salavou, 2007; H. A. Bakar et al., 2015b; Kreiser & Davis, 2010). All these studies used CE as a predictor of performance.

To date no study has considered the corporate entrepreneurship as a likely outcome of strategic improvisation, entrepreneurial self-efficacy as a mechanism of enhancing performance. In justifying the potentiality mediating effect of corporate entrepreneurship, the proposition of (Birkinshaw & Mol, 2006) will be invoked. The duo posits that the relationship between public sector strategy that leads to innovation and that performance are too limited. Additionally, the constant positive relationship that exists between CE and performance has provide an avenue for the mediating role of CE in entrepreneurship and strategy studies (Venkatraman & Ramanujam, 1986; Zahra, 1996).

Furthermore, leadership behaviour outcome has constantly document the effect of leaders on organisational strategy and outcomes. The main point here is the contention that "what we do" is a direct reflection of "who we are" (Chen & Nadkarni, 2016; Derue, Nahrgang, & Wellman, 2011; Hogan & Kaiser, 2005; Zaccaro, 2012). Hence, it is clear that leaders disposition directly explains the possible innovation that may occur in an organisation (Chen & Nadkarni, 2016b; Elgar, 2016; Phaneuf, Boudrias, Rousseau, & Brunelle, 2016). We therefore, argued that leaders with strategic improvisation ability and entrepreneurial self-efficacy are more likely to initiate and actualize activities that will lead to CE in their organisations. Because, these behaviour, skills or characteristics are encouraged and motivated by leaders to their subordinate, consequently becoming part of the organisational way of doing things (Forkuoh et al., 2016) . In fact, intuition which is an important part of SI have been identified as vital for corporate managers if they are to make a more informed strategic decision (Corbett, Covin, O'Connor, & Tucci, 2013). Finally, HEIs in Nigeria poor performance is linked with poor financing and means of utilizing the few available ones at their disposal. As such understanding CE factors will go a long way in improving their financing and consequently their performance.

In essence, Previous studies have stated that strategic improvisation has been linked with various terminology of corporate entrepreneurship (CE), such as strategic renewal (Brown & Eisenhardt, 1997; Evers & O'Gorman, 2011; Vera & Crossan, 2005), starting new business ((Baker, Miner, & Eesley, 2001; Hmieleski & Corbett, 2006), innovation (Bastien & Hostager, 1988; March, 1991) and new venture (Hmieleski & Corbett, 2008). Similarly, leaders managerial capital has been linked with CE (Dalziel, Gentry, & Bowerman, 2011; Wei & Ling, 2015).

In the same vein, previous studies have established a linked between ESE and new venture creation (Cassar & Friedman, 2009; Chen & He, 2011; Esnard-Flavius, 2010; Tang, 2008). Furthermore, other psychological factors especially those pertaining personality traits such as risk-taking propensity, locus of control (Mueller & Thomas, 2001), which were all included in the ESE construct have been identified as factors that enhances the establishment of new venture (Chen et al., 1998; De Noble, Jung & Ehrlich, 1999). Conclusively, cognitive intention have been identified as one of the single best predictor of starting a new business (Krueger & Carsrud, 1993). This argument is similar to that of Rutherford and

Holt (2007), who stated that CE occurs mainly because of the exploration and exploitation competencies and skills of the employees of an organisation. Therefore, in line with the above it is hypothesized that:

H3: Leaders' strategic improvisation is positively related to corporate entrepreneurship

H4: Leaders' entrepreneurial self-efficacy is positively related to corporate entrepreneurship

H5: Corporate entrepreneurship positively mediates the relationship between leaders' strategic improvisation and performance.

H6: Corporate entrepreneurship positively mediates the relationship between leaders' entrepreneurial self-efficacy and performance.

H7: Corporate entrepreneurship is positively related to performance.

2.14 Organizational culture as a Moderator

Despite the few studies that have examined the direct relationship between improvisation and performance (Bakar et al., 2015a), the findings is characterized with inconsistency. For example, some studies reporting a significant direct relationship include (Arshad & Hughes, 2009; Arshad, 2011; Bakar et al., 2015a; Bakar, Mahmood, & Ismail, 2015c), while (Leybourne & Sadler-Smith, 2006) found no significant relationship between satisfactory outcome success and performance. However, studies have established a relationship with performance through and indirect means using a moderating variable (Akgün & Lynn, 2002; Akgun, Lynn, & Byrne, 2006; Tseng et al., 2015; Vera & Crossan, 2005).

Similarly, studies on ESE and performance have reported mixed findings; some reports a positive relationship while some a negative relationship. For example, researchers such as (Anna et al., 2000; Forbes, 2005; Hmieleski & Baron, 2008; Lindsay et al., 2007; Neri Torres & Watson, 2013) have all established a significant relationship, while (Chandler & Jansen, 1997; Poon et al., 2006; Stone, 1994) reported negative and non-significant respectively. However, studies (e.g. Markman, Balkin, & Baron, 2002) have identified that some differences in regards to the level of their ESE with some having higher than other, therefore some will have higher risk taking and opportunity identification than the others (Krueger & Dickson, 1994). In addition, the relationship between entrepreneurial self-efficacy is cyclical that that can enhance or reduce performance as a result of differences in method of acquisition (Lindsley, Brass, & Thomas, 1995). Based on these inconsistencies and argument presented above, the present study includes organizational culture as a moderating variable on the relation between strategic improvisation, entrepreneurial self-efficacy and performance.

Organizational culture (OC) refers to the actual behaviour of employees within the organization which affects how they do things within the system. According to Lok and Crawford (2001) OC influences performance and employees commitment. Schein (1990) asserted that OC is a set of values and beliefs shared by employees within a particular organization. These beliefs, norms and expectation serve as the main factor in conducting the behaviour of an individual within the organization and what differentiate them with other organizations (Alvesson, 1995). OC is very important in explaining the way and manner in which things occur in an organization, in fact organizational culture is the organizations personality (Sims, 2000). OC has been linked with organizational performance in many studies (Al-Swidi & Mahmood, 2011; Banaszak-Holl, Castle, Lin, Shrivastwa, & Spreitzer, 2013; Ngo & Loi, 2008; Slater, Olson, & Finnegan, 2011; Wright, Jenkins-Guarnieri, & Murdock, 2012). In fact, the impact of organizational culture on performance has been associated with the effects of individual behaviour (Calori & Sarnin, 1991; Cheng, 1989), which is as a result of accumulated experience and adaptation with the environment (Hofstede & Hofstede, 2001). Hence, the need for all member of the organization to have the culture around them in their mind (Hofetede, 1998).

Additionally, positive culture influences the way employee's feel which will influence their actions as well as the results because its embedded within the managerial hierarchy (Banaszak-Holl et al., 2013). Moreover, the role of organizational culture have been identified as important factors that can enhance or hinders organizational innovation success such as quality service delivery (Aguinis & Roth, 2005; Franco, Bennett, & Kanfer, 2002; Wilkins & Dyer, 1988; Zhu, 2015), in fact studies have stated that success and failure of educational innovation is attached to supportive organizational culture (Creemers, 2002; Fullan, 2001; Senge, 1994; Stoll, 1999). Moreover, OC has been used as a moderator in many studies such as (Sharoni et al., 2012; Wennberg, Pathak, & Autio, 2013; Yiing & Ahmad, 2009), since culture is known to play an important role in shaping individuals entrepreneurial behaviours, that include start up and innovative activities (Bowen & Clercq, 2008; Shane, 1993). More importantly, research has found that the harmonious combination of appropriate leadership behaviours with certain types of organizational cultures can positively influence employees' performance (Ogbonna & Harris, 2000). Thus, the following hypothesis is formulated:

H8: Organizational culture moderates the relationship between leaders' strategic improvisation and performance.

H9: Organizational culture moderates the relationship between leaders' entrepreneurial self-efficacy and performance.

2.15 Theoretical Framework

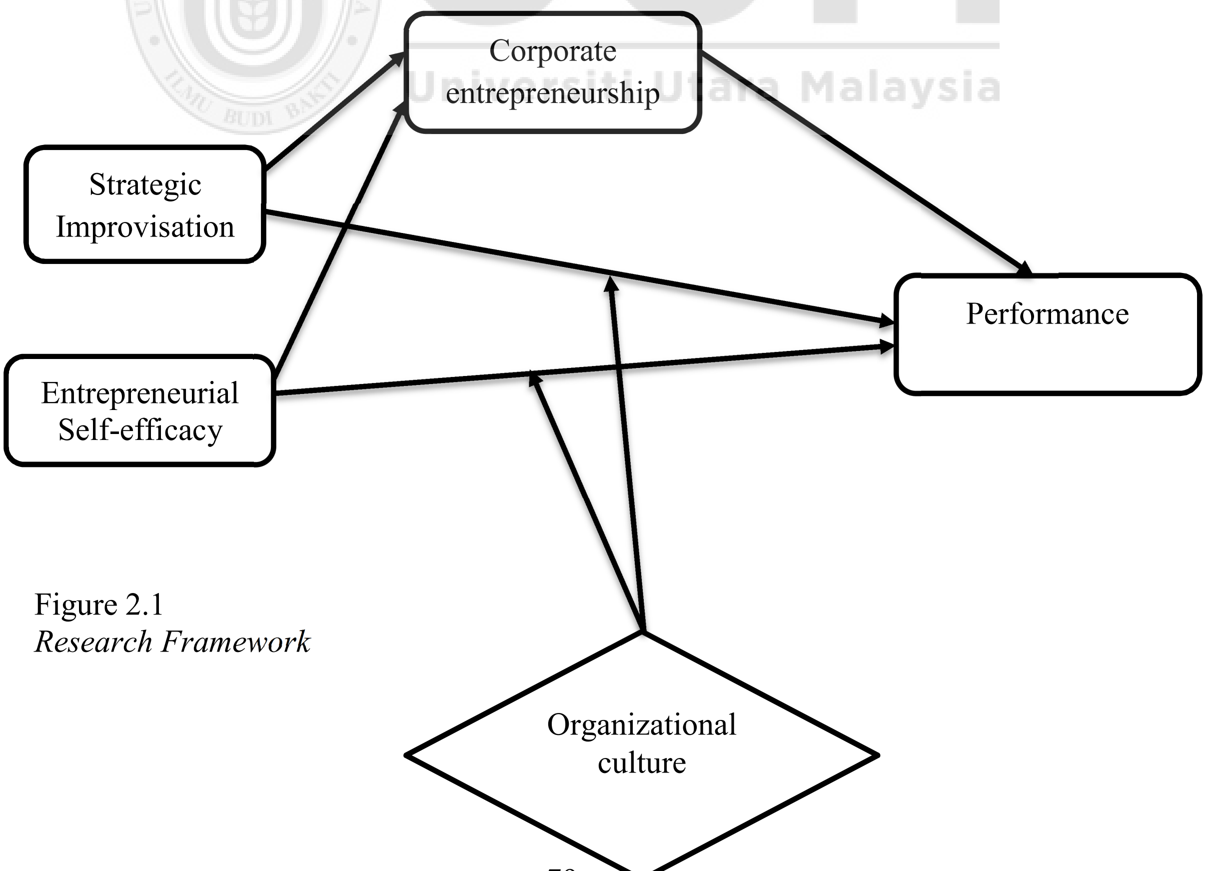

Figure 2.1
Research Framework

From the above, it is clear that resource-based view theory has fully identified the role organizational recourses plays in building internal competency in order for them to be able to achieve sustainable and competitive advantage (Barney, 1991). The general assumption of the RBV is the ability of firm to acquire certain unique resources that will create value better than its major rivals which cannot be easily substituted and copy. Specifically, Barney (1991) highlighted the essential characteristics underlying the RBV theory, they are: resources must be valuable, the most be rare, imitable and non-substitutable. From the above it is clear that the entire construct under study are affected by one or all of the fundamental assumptions of RBV theory.

Strategic improvisation and Entrepreneurial self-efficacy are all competency skills needed for successful entrepreneurs that complement the effort of other tangible resources in the organization (Rahim, Mohamed, & Amrin, 2015). In addition, successful organizations are the one that have the ability to predict its customers, environment (improvisation) based on the real-time information better and faster than its competitors, thus, indicating the need for high mental alertness, trust and self-confidence to identify business opportunities (Indrawati, Salim, & Djawahir, 2015). Entrepreneurs ability in terms of skills, knowledge and values (human capital resources) are vital for the advancement of the organizational goal and objectives (James D. Adam, 2004).

Social cognitive theory (SCT) has highlighted the role of human agency, in such a way that an individual is pivotal to his or her development as a result self-belief. Individuals will be able to fully exercise full control towards his thoughts and feelings that will determine the possible action (Barbosa et al., 2007). In addition, several mechanisms such as perceived individual self-efficacy have been identified as an important factor in regulating performance and motivation (Wood & Bandura, 1989).

Therefore, convincingly providing justification that individual with high self-efficacy will have more confidence in pursuing a given task persistently (Bandura, 1997). Self-efficacy is seen as both personality trait as well as personality characteristics (Littunen, 2000), that helps in triggering the mental alertness of an entrepreneur to fully utilized its interactions with the immediate environment. Thus, entrepreneurial self-efficacy is needed to help in recognizing sensitive opportunities not yet uncovered in the environment (Erikson, 2002). Ample research evidence that provides support for SCT in explaining and understanding of work-related performance cut across all organizations settings (Kura, 2014).

2.16 Chapter Summary

In summary, this chapter has critically reviewed the literature on organizational performance, strategic improvisation, entrepreneurial self-efficacy, corporate entrepreneurship and organisational culture. In addition, the chapter also provided the few studies conducted on the variables of interest and the summary of their findings. Furthermore, the chapter provides the justification for a more comprehensive study especially in public sector, hence, the inclusion of both CE and OC as mediating and moderating variables to determine their role in reviving Nigerian HEIs

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the method that employed for collecting data for the present study. Specifically, the chapter covers the nature and the philosophy of the study, underpinning theory, research design, operational definition of variables, measurement of variables, population of the study, sampling technique, data collection procedures and proposed techniques and steps of data analysis.

3.2 Research Philosophy

Researchers conducting any type of research have been admonished to fully understand and explain the basic assumptions of ontology and epistemology, because they are considered as the guiding process of understanding research topic and the result of the studies (Burrell & Morgan, 1979; Creswell, 2013; Deshpande, 1983). Bryman and Bell (2007) defined Ontology as "whether social entities can and should be considered objective entities that have a reality external to social actors, or whether they can and should be considered social constructions built up from the perceptions and actions of social actors" (p.22). Ontology is all about "the nature of social entities" (Bryman & Bell, 2007 p. 22) and is concern about finding the answer to the nature of reality, thus ask the question "what is the nature of reality" (Collis & Hussey, 2003 p. 49). Bryman and Bell (2007) identified two main ontological paradigms which are objectivism (realism) and constructivism.

Epistemology is more concerned with "the study of knowledge and what we accept as being valid knowledge" (Collis & Hussey, 2003 p. 48). Researchers in social sciences based their assumptions on epistemology by mainly focusing on the correlation between the researchers with the social phenomena, which explain the major reason the research is conducted (Corbetta, 2003). Epistemology just like ontology is divided into two main schools of thought, namely positivism and interpretivism (Bryman & Bell, 2007; Collis & Hussey, 2003; Deshpande, 1983; King, Cassell, & Symon, 1994).

Positivism has been attributed to the effort of French philosopher Auguste Comte (1798–1857) (Easterby-Smith, Thorpe, Lowe, & Jackson, 2008; Mack, 2010). Positivism based their assumption on the possibility that a researcher is independent of the social reality as such can observed and measures the world in which we exists (Corbetta, 2003; King et al., 1994). Based on this, we can therefore quantitatively represent social life; examine its correlation and the cause and effects that exist between variables (Creswell, 2009). Overall, positivism paradigm is more inclined to testing theory through deductive concept (Tashakkori & Teddlie, 1998), with the sole aim of testing hypothesis to identify causal relationship utilizing existing literature and theories (Bryman & Bell, 2007; Deshpande, 1983). Furthermore, Bryman and Bell (2007) stated that deductive research involves providing generalized conclusion and providing a guideline in theory revision. In essence, positivism is all about seeking objectivity, testing causal relationship using theories, separating facts from their meanings, encourage the need for study replication and attempting to find specific quantitative measures (Denzin, 1978; Neuman, 2006).

Conversely, interpretivism which is also known as Phenomenology or anti-positivist or constructivist, is credited to a German philosopher and a mathematician Edmund Husserl (1859-. 1938) (Mack, 2010; Willis, Jost, & Nilakanta, 2007). The interpretivism disagree with the positivism rejecting the quantifying "quantification of phenomena" (King et al., 1994 p.4), believe that social life can be qualitatively observed through various means such as interviews, case studies, direct observation, among others (Neuman, 2006). Moreover, the assumptions of the interpretivism of the social reality is considered subjective and socially constructed, in such a way that they must be an interaction between researcher and participants in other to understand a phenomenon from the individual's point of view (Creswell, 2009; Guba & Lincoln, 1994).

The present study is aim at testing a hypothesized structural model. The model theorized that strategic improvisation, entrepreneurial self-efficacy affects performance, with mediating and moderating role of corporate entrepreneurship and organizational culture. Hence, the present study has developed a hypothesis based on literature and existing theories and will therefore employ the deductive research approach since we are testing hypothesis not developing. Consequently, drawing from the discussion above, the study will adopt positivism which has been identified as the most widely used in social science research.

3.3 Research Design

Research design is an important segment of research which serves as a roadmap to the attainment of research objectives. According to Cooper and Schindler (2003) research design is the foundation upon which other parts of research depends on, usually the research question. Zikmund, Babin, Carr and Griffin (2013) identified three basic type of research design, namely exploratory, explanatory and descriptive research designs and posit that the decision on which to use depend largely on the research problems.

The study used non-experimental design, a situation in which the researcher has no control between predicting (independent) variables as a determinant of its effects on the criterion (dependent) variable. Thus, only the measurement of the study can be influenced and not the research settings. The study utilized the most common research design i.e. cross-sectional. Creswell (2009) defined cross-sectional research design as the process that involves collecting data from a population only once at a particular point with the sole aim of achieving the research objectives. Cross-sectional have been identified to save both time and cost (Sekaran & Bougie, 2013; Sekaran, 2003; Zikmund et al., 2013).

As regards to research approach, there are many research approaches in the social science domain. Common among them are quantitative, qualitative and triangulation or mix method (Salkind, 1997). According to Saunders, Lewis and Thornhill (2009), quantitative approach is the data that is derived from numbers that include numerical and standard data that was used in conducting analysis, which explains by the aid of diagrams and statistics. Qualitative is concerned with the use of verbal information; it is usually used in a special case in which the researcher is interested in identifying and analyzing the full information of a particular phenomenon (O'Sullivan, Rassel, & Berner, 2003). Finally, triangulation stresses on the situation in which a researcher uses more than one theoretical aspects of in his study. It is simply defined as the process of mixing both quantitative and qualitative method in data analysis, usually to strengthen the evidence of the study (Neuman, 2006).

For this particular study, quantitative research technique was adopted. Langdridge and Hagger-Johnson (2009), concur that quantitative research technique is judged suitable for a study of this nature in terms of time and cost. Quantitative research is commonly used for empirical evidences in the field of social sciences and business field. Leedy and Ormrod (2005), suggested the use of quantitative in examining relationship and hypothesis to be able to validate the interaction of the variables. Also Creswell (2009) has stated that quantitative method helps in providing validity, reliability of the deductive and objectives of the studies. Accordingly Babbie (2005) asserts that quantitative methods if use in research makes the research more generalized as compared to qualitative methods.

The present study adopted a survey research method for data collection through the use of self-administered questionnaire. The survey method was selected because it has been considered very important especially in organizational research that involves collecting data from a large population that can be impossible to observed directly (Tanur, 1983). The target population of the study were academic leaders that include all academic staffs presently holding administrative positions such as Faculty Deans, Departmental Heads, Director of Institute/centre, Level or programme coordinators and their deputies were applicable in tertiary institutions in Kano Nigeria, thus the unit of analysis was individual level.

3.4 Population

According Sekaran and Bougie (2013) population as the general group of individual or organizations that the researcher wish to study. Individual with same or similar characteristics and feature which can be identified by the researcher for the study are called population (Creswell, 2013).

This current study focused on academic leaders of HEIs in Kano state Nigeria. HEIs were selected for the present study because of the following reasons. Firstly, Educational sector was chosen because the role of education and, in particular, that of HEIs in developing a pool economy of knowledge. Moreover, their new role as a legitimate means for economic and social development (Saint, Hartnett, & Strassner, 2003).

Secondly, Kano state which is in the north west part of Nigeria was selected because it is the most populated state in the country, with an estimated population of 7.1% (10 million) of the total 140 million estimated Nigerian population (Commission, 2006). However, there exist a wide disparity in terms of school enrolment between the North having only 30% as compared to that of the South having 70% (Bertelsmann Stiftung's Transformation Index, 2014). Thus, resulting in north west having the highest number of people living in abject poverty with 71.4 per cent (Okpi, 2013), due to its high illiteracy rate. In addition, Kano state has been an important state for Nigerian education as it plays a host of many other students from North West zone and Nigeria at large due to its peaceful and accommodating nature of its people. Therefore, understanding factor that will enhance leaders' performance which will enhance HEIs performance in the state will serve as a prototype to other states within the region on how to improve their educational sector, especially as most of them are far behind the literacy accepted position.

Thirdly, entrepreneurial HEIs are only possible with effective leaders since it has been observed that without strong and effective leadership the possibility of a university becoming an entrepreneurial one cannot be achieved (Yusof & Sapuan, 2008). Bakar and Mahmood (2014) also posited that academic leaders' individual behaviour plays a significant role in achieving unit and organisational success. Lastly, the influence the leaders will have on its subordinates will also affect the students, thus, preparing them for the challenges facing the business world and the society as a whole learning the skills to effectively run a business (Abereijo, 2015). The primary focus of this study is the academic leaders in Kano state HEIs numbering to ten. The ten HEIs have been estimated to have 756 academic leaders, using available data through personal contact and also data on their various websites.

Specifically, the population consists of all academic leaders that include all academic staffs presently holding administrative positions such as Faculty Deans, Departmental Heads, Director of institute or centre, programme coordinators and their deputies were applicable. These staffs will be term as "academic leaders" in line with (Bakar & Mahmood, 2014). The performance of managers or leaders at any position and level has been attributed to increase in performance of subordinates which will inversely improve overall organizational performance (Bakar & Mahmood, 2014). Kano state HEIs academic leaders' numbers is shown in table 3.1:

Figure 3.1
Total Number of Academic leader in Kano tertiary institutions

NO	**Institution Name**	**No of Academic leaders**	**%**
1	Bayero University Kano (BUK)	200	26%
2	Kano state University of Science and technical, Wudil (KUT)	80	11%
3	Northwest University Kano	70	9%
4	Federal College Education Kano (FCE)	100	13%
5	Kano State Polytechnic (POLY)	110	15%
6	Saadatu Rimi College of Education (CoE)	60	8%
7	College of Art and remedial studies	30	4%
8	Audu Bako College of Agric Danbatta.	32	4%
9	School of Health Technology	34	4%
10	School of Hygiene	40	5%
Total	**10**	**756**	**100**

3.5 Sample Size and Power Analysis

The possibility of collecting data from entire population is unimaginable especially in a situation where it includes hundreds or thousands numbers. Sekaran and Bougie (2013) stated that it will be a waste of time and cost to try to cover the entire population. Thus, the need to critically understand sample size that will represent the population is very important in quantitative survey (Bartlett, Kotrlik, & Higgins, 2001).

A sample is defined as a subset or sub-collection of the larger population under study, thus representing the elements or individuals of a given population. In fact, Creswell (2013) stated that sub-groups of the study are aimed at providing generalizability to the target population. Studies using sample have been identified to produce a more better and reliable result, almost free of error (Sekaran & Bougie, 2013; Sekaran, 2003). The study's sample size was determined using G*power version 3.1 and (Dilman, 2007) sampling formula.

Identifying the appropriate sample is one of the key element of survey research (Bartlett et al., 2001), because it helps in reducing sample error to a paltry level. One of the process of minimizing sampling error is identifying and appreciating the statistical test, since relationship between variables is rejected when it is false (Cohen, 1988; Faul, Erdfelder, Lang, & Buchner, 2007). Generally, there is some agreement among researchers that larger sample provides substantial statistical power of the test (Borenstein, Rothstein, & Cohen, 2001; Kelley & Maxwell, 2003; Snijders, 2005). G*Power is one of the statistical method of determining sample size (Faul, Erdfelder, Buchner, & Lang, 2009; Faul et al., 2007), which have been acknowledged in providing appropriate sample size in conducting research. Some of the guidelines observed in determining the sample size are power 1-β err prob; 0.95), an alpha significance level (α err prob; 0.05), medium effect size f² (0.15) and also the two (SI and ESE) predictive construct of the study. Hence, a minimum sample 129 is needed for testing regression model in the study (Cohen, 1988; Faul et al., 2009, 2007).

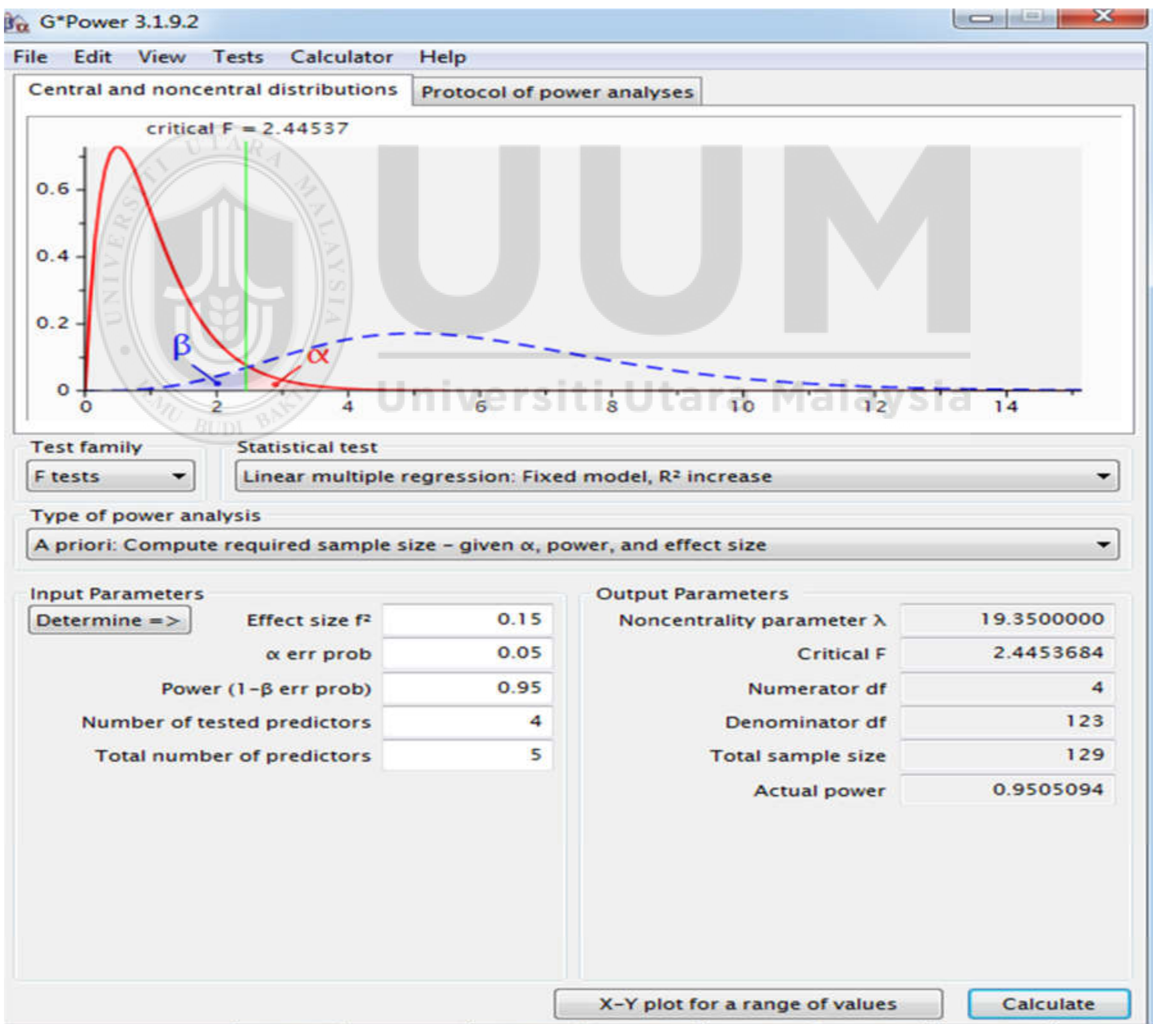

Figure 3.2
The Output of a Priori Power Analysis

However, to further reduce the possible weak response as the case in Nigerian context, especially among highly educated individuals (Adomi, Ayo, & Nakpodia, 2007; Asika, 1991; Enumereke Janet Ofo, 1994) and also from uncooperative respondents the sample was increased by 40% in line with Salkind (1997) suggestions. This necessitate the use of another method in order to take care of the above short comings by providing adequate sample size needed to represent the population. In fact, lower sample size has been linked to high tendency of error (Alreck & Settle, 1995). Hence, Dillman (2007) sampling formula was used in determining the sample of the study. Interestingly, this formula has provided the significance of confidence level and precision in order to minimize sampling error. As mention earlier, the total number of academic leaders presently ten HEIs is 756 located in Kano state Nigeria as at 15th January 2015. The sample of the study is 370 as calculated below:

$$Ns = \frac{(Np)\ (p)\ (1 - p)}{(Np - 1)\ (B/C)^2 + (p)\ (1 - p)}$$

Where:

Ns = completed sample size needed for desired level of precision

Np = size of population (in this case assume 80,000)

p = proportion of population expected to choose one of the two response categories (in
this case either owner or renter)

B = acceptable amount of sampling error (in this case assume +/- 5% = 0.05)

C = z statistic associated with the confidence level (in this case assume a 95% confidence level = 1.96)

$$Ns = \frac{(Np)(p)(1-p)}{(Np-1)(B/C)^2 + (p)(1-p)}$$

$$Ns = \frac{(756)(0.5)(1-0.5)}{(756-1)(0.05/1.96)^2 + (0.5)(1-0.5)}$$

$$Ns = \frac{(756)(0.5)(0.5)}{(755)(0.000651)\ \ + (0.25)}$$

$$Ns = 253.7$$

$$Ns \approx 254$$

3.6 Sampling Method

The need for equal representation have been advocates when determining a sample size (Hair, Money, Samouel, & Page, 2007). Thus, quota sampling technique will be used to determine the 370 sample identified above. Quota sampling is defined as a "form of proportionate stratified sampling, in which a predetermined proportion of people are sampled from different groups, but on a convenience basis" (Sekaran & Bougie, 2013 p.278). Quota sampling was used because of the following reason: sample frame for the population cannot be access, thus indicating the appropriateness of using quota sampling (i.e., a non-probability sampling technique). Secondly, quota sampling was used because the larger population includes subpopulations that are homogenous internally but heterogeneous across groups (Cooper & Schindler, 2003). Thus, homogeneity in the study is assumed in terms of academic leadership, organizational culture and heterogeneity in terms of setting, environment and sponsorship i.e. federal or state government (Cooper & Schindler, 2003; Hair et al., 2007; Punch, 2005; Sekaran & Bougie, 2013). Also, quota sampling has been suggested when there are resource constraints such as time and money (Hair et al., 2007; Punch, 2005; Saunders et al., 2009; Sekaran & Bougie, 2013).

In fact Rowley (2014) argued that most studies in social sciences uses non-probability sampling, hence stated three basic factors that necessitates the use of this sampling technique. First, the actual population and their boundaries on who might or might not be included are not precise. Secondly, difficulties in sample frame compilation, as most government organisations don't have full and complete list of their staff that constitutes the population of the study. Lastly, probability sampling enhances the chances of non-response bias, as the possibility of the researcher to have 100 per cent response rate is rare. Finally, the study is more for theoretical generalization than external validity, hence, the use of non-probability sampling is more appropriate (Calder, Phillips, & Tybout, 1982).

Several steps need to be taken in adopting a quota sampling technique. The first step is identification of the population, which has been estimated to be 756 (see table 3.2). The second is defining the stratum. The stratum is the ten tertiary institutions in Kano state. Next is determining the average number needed from the population in each strata by dividing the total population (i.e., 756) by number of institution (10 strata). The result indicates 75.6 elements per strata. The next step is determining the percentage of the respondents that are needed from each stratum by dividing the sample size with the total population of the study (348 divided by 756 and then multiply it by 100 = 46%). The last step is determining the number of respondents needed in each stratum by multiplying it by 46%. For example, Bayero university academic leaders 200 was multiplied by 46% to arrive at the required number of respondents in the sample (i.e. 200 x 46% = 92). Table 3.2 shows the remaining required respondents in each stratum. The adoption of the disproportionate quota random sampling is to enable fair and equal distribution and representation of each of the ten tertiary institutions in Kano state.

Table 3.1
Disproportionate quota sampling of respondents

No	Institution Name	Number of element in stratum	Number of respondents in the sample
1	Bayero University Kano	200	92
2	Kano state University of Science and technical, Wudil.	80	37
3	Northwest University Kano	70	32
4	Federal College of Kano state	100	46
5	Kano State Polytechnic	110	51
6	College of Education Kumbotso	60	28
7	College of Art and remedial studies	30	14
8	Audu Bako College of Agriculture, Danbatta.	32	15
9	School of health technology	34	16
10	School of Hygiene	40	18
	Total	756	349

3.7 Unit of Analysis

Bailey and Pearson (1983) defined unit of analysis as an essential element or entity that is being studied, in which data for the study will be collected. They are various kinds of unit of analysis in social science research namely; individual and organizational (Creswell, 2013; McDougall & Oviatt, 2000). The research question is a primary guide in determining the unit of analysis of a particular study (Yin, 1994). Thus, unit of analysis should be consistent with problem statement, research question and objectives. In fact, Davidsson and Wiklund (2001) stated that unit of analysis is determined by research questions and not the level at which data was collected.

Thus, the present study unit of analysis is individual. Specifically, the respondents are middle managers that include departmental heads, deans, deputy deans and directors. It has been argued that, entrepreneurial initiatives are carried by individuals (Schumpeter, 1934), while the initiatives take place in organizational contexts (Moran & Ghoshal, 1999; Shane & Venkataraman, 2000), often resulting in the formation of new firms (Gartner, 1989; Schumpeter, 1934) or the rejuvenation and improve performance of established firms.

In essence, academic leaders behavioural attitudes in the form of strategic improvisation, entrepreneurial self-efficacy, corporate entrepreneurship and perceive organisational culture are the subject of interest of the present study. Accordingly, as highlighted in the previous chapter 2, information on these variables are collected and measured because they are expected to enhance positively enhance performance of the individual academic leaders of these HEIs, which is the unit of analysis.

3.8 Operationalization and Measurement of Variables

This section attempts to provide operationalized definitions of the variables to be investigated. In research variables are a conceptual character that is of no significant if not defined according to the context of the research (Sekaran & Bougie, 2013). Thus, operationalized definitions highlight the researchers intended definition and measurement of the variables which are either adopted or adapted from previous literature.

3.8.1 Performance

Performance is operationalized as the ability of the leaders to efficiently utilized its few resources and also provide the needed service to the satisfaction of its employees and customers. Furthermore, the study also operationalized performance as a uni-dimensional construct and subjective (non financial) based on Dess and Robinson (1984) submission, utilizing scale from Berman and West (1998), Brewer and Selden (1998), Choi and Rainey (2010), Morris and Jones (1999), Moynihan and Pandey (2005) and Pitt and Tucker (2008). The items covers both managerial efficiency in terms of cost and service delivery, general employees performance and customer satisfaction. The items were guaged on a 5 point likert scale (1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neutral*; 4= *Agree*; 5 = *Strongly agree*). The conbach's alpha of the construct ranges from .79 to .87 (Hijal-Moghrabi et al., 2015; Kim, 2010a; Nayyar & Mahmood, 2014). Table 3.3 presents the adpoted items that was used in the study:

Table 3.2
Survey items to measure Performance

Construct	Item code	Survey items	Source
	Perf01	I have reduced procedual and service cost after implementing any entrepreneurial actions.	Berman and West (1998), Morris and Jones (1999), Moynihan and Pandey (2005),
	Perf02	My performance has improve because of my entrepreneurial activities.	
	Perf03	My productivity have increased as a result of implementing entrepreneurial behaviours in the past three years	
Performance	Perf04	My customers (students and non-students) are satisfied with my performance.	
	Perf05	I have a strong customer (students and non-students) orientation.	Brewer and Selden (1998), Choi and Rainey (2010) and Pitts (2009)
	Perf06	I hold individual accountable for their performance appraisal.	
	Perf07	I sets high performance standard for my subordinates.	
	Perf08	I compare my performance with similar organizations.	
	Perf09	I use performance measurement in my program management.	

3.8.2 Strategic Improvisation

Strategic improvisation is operationalized as the leaders' ability to respond to unforeseen circumstances intelligently and effectively in order to solve a problem or utilize an opportunity. It involves making a creative decision or action outside the formal organization structure. This is in line with (Vera & Crossan, 2005). The items were guaged on a 5 point likert scale (1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neutral*; 4= *Agree*; 5 = *Strongly agree*). The construct was measured using seven items adapted from Vera and Crossan (2005). The items rooted from the work of Moorman and Miner (1998), Tierney, Farmer and Grean

(1999), Unger and Kernan (1983) has a Cronbach's alpha of .91. Table 3.4 presents the adapted items to measure strategic improvisation.

Table 3.3
Survey items to measure strategic improvisation

Construct	Item Code	Survey items	Source
Strategic Improvisation	SI01	I address unanticipated events on the spot.	Vera and Crossan (2005)
	SI02	I adjust effectively and intelligently to new developments or changing circumstances.	
	SI03	I deal with unexpected problems immediately.	
	SI04	I try new approaches to solve/resolve problems.	
	SI05	I identify opportunities for new ideas and process.	
	SI06	I take risk in producing new ideas.	
	SI07	I demonstrate originality in discharging my duties.	

3.8.3 Entrepreneurial Self-Efficacy

Entrepreneurial self-efficacy is operationalized as leaders' ability in successfully executing entrepreneurial activities for the betterment of the institution. This involves the ability to market the institution through research and quality output (students), innovative practices in teaching and learning, responsibilities and roles coordination (Management), risk taking on the process of research funding and commercialization and financial control to fully utilize their few resources. This is in line with Chen, Greene and Crick (1998), which highlighted the key activities of entrepreneurial self-efficacy to include Marketing, innovativeness, management, risk-taking and financial control. The items were gauged on a 5 point likert scale (1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neutral*; 4= *Agree*; 5 =

Strongly agree).The study adapted the six items from Wilson, Kickul and Marlino (2007). However, all the items were seen as simplified items of major scholars of ESE such as Chen et al., (1998), and De Noble, Jung and Ehrlich (1999). The table below highlights the adapted items:

Table 3.4
Survey items related to entrepreneurial self-efficacy

Construct	**Item Code**	**Survey items**	**Source**
	ESE01	I have the ability to solve problems on behalf of my institution.	
	ESE02	I have the capacity to manage my institution's financial resources efficiently.	
Entrepreneurial self-efficacy	ESE03	I have the entrepreneurial ability to commercialize my institution's research.	Wilson, Kickul and Marlino (2007)
	ESE04	I have the ability to influence my staff and students.	
	ESE05	I have the ability to lead and inspire my subordinates toward the vision of my institution.	
	ESE06	I take responsibility for actions executed on behalf of my institution.	

3.8.4 Corporate Entrepreneurship

CE is the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization (Sharma et al., 1999). Items adapted from the study of Bulut (2008) and Stull (2005) gets its root from entrepreneurial orientation (EO) scale developed by Covin and Slevin (1989) and have been used as a measure corporate entrepreneurship (Bakar & Mahmood, 2014). Table 3.7 below indicates the items to measure corporate entrepreneurship:

Table 3.5

Survey items to measure corporate entrepreneurship

Construct	Item Code	Survey items	Source
	CE01	I approach new assignment or activities in a cautious manner.	
	CE02	I do things that have a chance of not working out	
	CE03	I avoid taking calculated risk t.	
	CE04	I engage in activities that have a chance of not working out	
	CE05	I will take calculated risk despite the possibility of failure.	
Corporate Entrepreneurship	CE06	I keep ahead of changes instead of responding to them.	Bakar and Mahmood (2014)
	CE07	I actively fix or improve things I don't like.	
	CE08	I act in anticipation of future problems, needs or changes	
	CE09	I take the initiative to start projects or assignments.	
	CE10	I keep ahead of changes instead of responding to them.	
	CE11	I generate useful new ideas	
	CE12	I develop new processes, services or product.	
	CE13	I approach task in innovative way.	
	CE14	I find new ways to do things.	
	CE15	I often do things in a unique way.	

3.8.5 Organizational Culture

Organizational culture is operationalized as a shared set of values that induces societal values, perception, preference and response. These norms and values unite the organizational members and also provide an avenue where new members are taught the way and manner in which things are done in that organization. This definition is in line with Daft (1995) as adapted by Al-Swidi and Mahmood (2012). The present study adapted eighteen items from (Denison, 2001; Denison, 1990) as used by Al-Swidi and Mahmood (2012). Table 3.6 shows the 18 modified items of organizational culture:

Table 3.6
Survey items to measure organizational culture

Construct	**Item Code**	**Survey items**	**Source**
Organizational Culture	OC01	My institution highly involves its employees in decision making.	Al-Swidi and Mahmood (2012), Denisons (1996)
	OC02	My institution shares information widely and timely so that everyone can get the information he or she needs.	
	OC03	My institution primary building blocks are its staff.	
	OC04	My institution organized its work in such a way that each person can see the relationship between his/her job and the organization's goals.	
	OC05	My institution encourages continuous investment in the skill development of its employees.	
	OC06	My institution view capabilities of its staff as an important source of competitive advantage.	
	OC07	My institution has a clear and consistent set of value that governs the way we do teaching and	

		research.	
	OC08	My institution has a clear agreement about the right and wrong ways of doing things.	
	OC09	My institution has no good alignment of goals across levels.	
	OC10	My institution responds well to competitors and other changes in academic and business environment.	

Table 3.5 Continues

Construct	**Item Code**	**Survey items**	**Source**
	OC11	My institution staff do not cooperate to create changes.	
	OC12	My institution considers students input directly in making decisions.	
	OC13	My institution encourages direct contact with students.	
	OC14	My institution view failure as an opportunity for learning and improvement.	
Organizational Culture	OC15	My institution encourages and rewards innovation and risk taking.	Al-Swidi and Mahmood (2012), Denisons (1996)
	OC16	My institution has a clear mission that gives meaning and direction to our work.	
	OC17	My institution employees understand what needs to be done to succeed in the long run.	
	OC18	My institution has the vision to creates excitement and motivation for our employees	

3.9 Questionnaire Design

In this present study a structured questionnaire with mainly close-ended multiple questions was used, using a five-point Likert scale. Even though some studies (Ahearne, Lam, & Kraus, 2014; Akgün et al., 2007; Chang & Lin, 2015) favours other Likert scale such as four, six, seven and ten, scholars such as Krosnick and Fabrigar (1997) believes that scales with midpoint provides better and more accurate result. Hence, provides an avenue to the respondents to precisely indicates their stand (Schuman & Presser, 1981). Furthermore, Elmore and Beggs (1975) stated that an increase in the number of scale like seven or nine might not guarantee an improve in reliability test, because it takes time and effort and might end of confusing and annoying the respondents.

Therefore, Neuman and Robson (2008) assert that for a researcher to achieve better results five-point Likert scales should be used, hence the present study adopted the five Likert scale. This is also in line with evidence from previous studies such as Al-Swidi and Mahmood (2011) and Naipinit, Kojchavivong, Kowittayakorn and Na Sakolnakorn (2014). In this study a questionnaire with six sections was used. Section one measured one of the exogenous construct strategic improvisation (SI) with seven items. Section two measured the second constructs entrepreneurial self-efficacy using six items. Part three and four of the questionnaire measured corporate entrepreneurship and organizational culture using fifteen and eighteen items respectively. In section five, performance was measured using nine items. Finally, section six measured demographic variables such as gender, age, education (Highest qualification), working experience, administrative position, number of years in the present position, academic position and institution.

3.10 Data Collection Procedures

The data collection of the study started after the proposal defence corrections where a new pilot study was conducted. In particular, data collection started on 1st February 2016 to 29th April 2016. There exist several methods of data collection that a researcher can utilize to generate data from its respondents (Zikmund et al., 2013). Some of the available methods include online, email and self-administered questionnaires.

The present study adopts the hand delivery method to generate data from academic leaders of HEIs in Kano state of Nigeria. Beside the low response rate (less than 5%) on postal questionnaire in Nigeria (Asika, 1991), the chosen method also have the following advantages: speed in distribution and high response rate (Zikmund et al., 2013). It also provides an avenue for further clarification to the respondents if the needs arise. Additionally, the researcher has the opportunity to persuade some of the targeted respondents to take part in the survey and may be convinced to give sincere answers that will help the research (Sekaran & Bougie, 2013).

Before proceeding to the main data collection an official letter was obtained from Othman Yeop Abdullah Graduate School of Business (OYAGSB). The letter officially introduced the researcher as a student of the school and also states the area of his research to the targeted respondents. Hence, the letter relaxed the respondents that the information will only be used for the research purposes. The questionnaire has ten pages with a covering letter explaining the purpose of the research, instruction and the brief information about the researcher. In order to entice the respondents to participate, the researcher on many cases initiate academic discussion and willingness to share some academic material especially SmartPLS text book and articles which is very new within the Nigerian academic environment.

3.11 Technique of Data Analysis

The present study used structural equation modelling (SEM) which has been divided in two main categories, covariance-based (CB-SEM) that include AMOS, LISREL and variance based that include Partial Least Square (Chin, 1998; Chin & Newsted, 1999). Thus, PLS path modelling (Wold, 1974), using Smart-PLS version 3.0 was used in testing the proposed theoretical model of the study. Smart-PLS is referred to as a second generation statistical tools used by researchers because it allows for concurrent analysis of multiple variables. Smart-PLS has become a major analytical tool in major research disciplines such as operations management (Peng & Lai 2012), Management (Hair, Sarstedt, Ringle & Mena, 2012), marketing (Hair et al., 2012) and Human resource management (Kura, 2016) as such was considered in this study because of following reasons: PLS is part of regression techniques that enables the estimation of relationship that exists between measurement model (indicators) and structural model (construct) possible at the same time (Chin, Marcolin, & Newsted, 2003; Duarte & Roposo, 2010).

Secondly, PLS-path modelling is considered useful particularly when dealing with complex model like the one in the present study (Hair et al., 2014). Thirdly, it has been established in the literature that moderating and mediating role of organizational culture and corporate entrepreneurship has not been fully explored especially within the public sector such as HEIs. Additionally, the study also aimed at exploring the role academic leader's strategic improvisation and entrepreneurial self-efficacy in increasing tertiary institution performance. Thus, the present study is explorative in nature that seek to apply resource based view, and social cognitive theory. Therefore, PLS path modelling was employed as suggested for study with an objective of theory extension or predictive orientated study (Chin, 1998; Gefen & Straub, 2005; Hair, Ringle, & Sarstedt, 2011; Henseler, Ringle, & Sinkovics, 2009; Hulland, 1999).

Moreover, the friendly graphical nature of PLS 3.0 makes it possible for the creation of the moderating effect of path models and interaction effects (Temme, Kreis, & Hildebrandt, 2006). In PLS, model estimation is based on the attainment of certain set of statistics ranging for both measurement model and structural model. For the measurement model be valid, there is need for us to ascertain the individual item reliability, convergent validity using Cronbach's alpha or composite reliability, internal consistency as well as discriminant validity (Hair et al., 2011; Henseler et al., 2009). The structural model was validated using bootstrapping to explain the correlation, highlighting the paths and loading significance through the t-value (Gefen & Straub, 2005).

Conclusively, Lowry and Gaskin (2014) summarized the logic of using PLS by saying "PLS can provide advantages over 1G techniques and CB-SEM techniques for preliminary theory building, while CB-SEM has advantages over PLS in terms of model validation. PLS incorporates several statistical techniques that are not part of CB-SEM—such as principal components analysis, multiple regression, multivariate analysis of variance, redundancy analysis, and canonical correlation without inflating the -statistic, as would happen if each analysis were conducted separately from the others.

3.12 Pilot Study

According Wiersma (1991) pilot study is "a study conducted prior to the major research study that in some way is a small-scale model of the major study: conducted for the purpose of gaining additional information by which the major study can be improved -for example, an exploratory use of the measurement instrument with a small group for the purpose of refining the instrument" (p. 427). Pilot study is the process of administering of questionnaires in order to test the suitability of the measurement of the study. It involves a small number of the sample that involves respondents that are similar to the main sample. It is referred to as "dress-rehearsal" (Lewis, Templeton, & Byrd, 2005). The need for conducting a pilot study before the main study was strongly recommended as it would reveal the problems associated with the instrument and also how to make corrections (Rowley, 2014). It would also provide the opportunity to check if the respondents understand the questions thereby providing the required data (Rowley, 2014). Pilot study is important in order to identify if the items really measured the research variables. Prior the pilot test the reliability and validity of the instruments are explained in the next section, after which the result of the pilot test is presented.

3.13 Reliability and Validity Test

The goodness of the measure especially when adapted is of important to the findings of the study. Precisely, the validity and reliability of the items need to be established to ensure acceptability of the findings. The measures of the study were all adapted from previous studies, mainly from the private sector, hence, the need to ensure that they measure the actual variables as conceptualized (Cavana, Delahaye, & Sekaran, 2001; Hair, Black, Babin, & Anderson, 2010). According to Greener (2008), the extent to which adapted items in the present study yield similar result with previous studies is referred to as reliability. Previous research has provided enough justification of using Cronbach's alpha during the pilot analysis stage and composite reliability in the main analysis in determining the reliability (internal consistency) of the adapted measures.

Accordingly, Peter (1979) defined validity as "the degree to which instruments truly measure the constructs which they are intended to measure" (p.6). Several types of validity have been identified, specifically, content, face, convergent, discriminant, nomological and ecological validity (Peter, 1981). In essence, validity refers to the extent to which the instruments, methods or measures used in a study actually measure what it is supposed to describe or measure (Lancaster, 2005). The validity's main concern is the appropriateness of the technique, instrument and the process of measuring the intended concept of the study (Hair et al., 2010; Sekaran & Bougie, 2013). Scholars have identified various means of established validity, specifically VanderStoep and Johnson (2008) identified construct validity, content validity, predictive validity, concurrent validity and face validity as the most common validity used. However, Greener (2008) went ahead to emphasized on face, construct and internal validity in a study. In fact, Greener (2008) stated that construct validity is the most vital when it comes to data analysis.

Accordingly, the present study conducted both face and content validity at the early stage before data collection. While, construct validity was also conducted to ensure all the items adapted measured the targeted construct of the study. Scholars have advocated the need for face and content validity before conducting a pre-test of the instruments, while the remaining two types of validity were assessed in 4.1.9.2 and 4.1.9.3 after the confirmatory factor analysis had been performed. This is a process of asking expert both from the academic and practitioners to full study the items in other to avoid any ambiguous questions. Thus, content validity deals with distributing few samples to respondents and expert to determine the appropriateness of the chosen items in relation to the variables (Hair, Black, Babin, Anderson, & Tatham, 2010; Hair et al., 2007; Sekaran & Bougie, 2013). Therefore, before conducting the actual pilot test of the items for the study, the researcher did the following: first, identified three experts that include a professor and two senior lectures from Nigeria to examine and provide suggestion that will enhance the quality of the questionnaire (Dillman, 1991; Yaghmale, 2003).

Also, more samples were given to some senior Ph.D. colleagues that have some significant understanding of the field and context of the study. These steps yield positive results as number of observations and suggestions were made, which no doubt enhance the quality of the instruments. Following delightful into consideration of the observation by the specialist, then the researcher came up an enhanced version of the instrument which was eventually administered for the pilot study using a sample of 45 questionnaires. The researcher was able to retrieved 32, but only 29 were filled in line with the study requirement.

After, the pilot tests other observations and recommendation were also noted and recorded in a diary. Thus, leading to further enhancement of the questionnaire based on the identified issues during the pilot test. For example, the initial draft has the following statement "On behalf of my institution, I tries new approaches to problems" was changed with "On behalf of my institution, I try new approaches to solve/resolve problems". Similarly, "On behalf of my institution, I act in anticipation of future problems needs or changes" was changed to "On behalf of my institution, I adjust effectively, and intelligently to new developments or changing circumstances".

Apart from the need for validity highlighted above, internal consistency reliability is the most commonly used among researchers. Internal consistency reliability test is degree to which all items joined together and autonomously capable of measuring the main concept as well as its relation with each other. The most accepted method of measuring the inter-item consistency and reliability is the Cronbach's alpha coefficient (Sekaran & Bougie, 2013). Thus, Cronbach's alpha was used in determining the internal consistency of the items of the study using SPSS version 22.

The pilot study result reveals a good reliability for all the variables having .851, .646, .896, .891 and .942 respectively. These values are in line with the acceptable yardstick coefficient. An instrument with 0.60 coefficients is considered average while 0.70 and above indicates a high reliability (Hair et al., 2010; Nunnally, Bernstein, & Berge, 1967; Sekaran & Bougie, 2013) and coefficient of 0.50 as supportive (Nunnally, 19767). Even though most researchers only regard 0.70 as the minimum acceptable coefficient, lower coefficient are also acceptable (Hair et al., 2007). Table 3.7, present the summary of the reliability result using SPSS version 18 In essence, construct validity is to test and validate the fitness of the adapted items in relation to the theories of the study.

Table 3.7
Summary of Reliability Study SPSS version 18 for windows

Construct	**Number of items**	**Cronbach's Alpha**
Strategic improvisation	7	0.851
Entrepreneurial self-efficacy	6	0.646
Organizational culture	18	0.896
Corporate entrepreneurship	15	0.891
Organizational performance	8	0.942
Total	**54**	

3.14 Chapter Summary

This chapter clearly explains the research methodology that was be used; this includes population, sample as well as method of determining the sample, source of instruments, questionnaire and the method that utilized in data collection. The chapter also explains the method of data analysis that includes factor analysis and hypothesis testing using Smart-PLS version 3.0.

The chapter also discussed the instrument used for this study as well as the validity and reliability of the instrument. Moreover, this chapter has describes the method of data analysis used in this study and the rationale adopting such method. Finally, this chapter has explains the pilot study conducted and its result.

CHAPTER FOUR

RESULTS

4.1 Introduction

The previous chapter explained the systematic method and procedures that was used in conducting the study. It also documented the result of the pilot test prior to the main study. The present chapter therefore, provides the result of the study. Prior the main analysis, data went into some form of cleansing, that includes screening to identify missing values, multicollinearity, normality, outliers, respondent's characteristics and other preliminary analysis. Subsequent to which the hypotheses were evaluated.

However, hypothesis testing requires other rigorous preliminary analysis and validation, thus, occurs in two different stages. The first is the measurement model, were the individual item reliability, internal consistency reliability, convergent and discriminant validity are assessed. The second section provides result on postulated hypothesis, path coefficient significance, R-squared values, exogenous variable effect size and predictive relevance of the whole model. Lastly, the complementary result of mediating and moderating effect are also reported and discussed.

4.2 Data coding

According to Churchil (1979), questions should be arranged in line with the targeted construct and should be coded with numbers for easy identification and analysis. In line with this, the study items were arranged in the same section with the construct it measured. In addition, each item is provided with a code as presented in table 4.1 below

Table 4.1
Construct Coding

No	Construct	Code	Number of items
1	Organizational Performance	OP	9
2	Strategic Improvisation	SI	7
3	Entrepreneurial Self-efficacy	ESE	6
4	Corporate entrepreneurship	CE	15
5	Organizational Culture	OC	18

4.3 Survey response analysis

The study distributed 370 questionnaires to academic leaders in ten HEIs in Kano state Nigeria between February 2016 and April 2016. Also, personal contact to friends and colleagues were made in each institution to help in coordinating the process in their various schools, faculty, and institutions. Moreover, a research assistant was employed for three (3) month of the process. The research assistant helps in distributing some of the questionnaires and also helps in getting the contact of the respondents. As a result of the assertion of low response rate in Nigeria, especially among highly educated fellows (Asika, 1991; Enumereke Janet Ofo, 1994; Nakpodia, Ayo, & Adomi, 2007). The following steps were utilized in order to ensure prompt and high response rate.

The initial data collection process was two months (February and March 2016). However, only 153 responses were received during the time, which prompted an extension of the duration by one month. This gives room for further follow up and a reminder to the coordinating contacts in the institutions (Bryman & Bell, 2011; Dillman, 2007). In addition, phone calls (Salim Silva, Smith, & Bammer, 2002; Traina, MacLean, Park, & Kahn, 2005), Short Messages Services (SMS) (Sekaran, 2003), WhatsApp and personal visit were also utilized in the process of collecting the data.

Sequel to the various effort utilized the study recorded 66% response rate (Jobber, 1989), amounting to 243 responses out of 370. Of the 243 returned questionnaire, only 229 were found suitable and usable for the analysis. Specifically, 14 questionnaires were rejected because a significant part of it was not completed. Hence, the study got 229 valid response representing 62%. A response rate of more than 30% is considered sufficient for the survey (Sekaran, 2003). See Table 4.2 below:

Table 4.2
Response rate of the questionnaire

Response	Number of questionnaires	Percentage (%)
No. of distributed questionnaires	370	100
Returned questionnaires	243	66
Returned and usable questionnaires	229	62
Returned and excluded questionnaires	14	4
Questionnaires not returned	127	34

4.4 Independent Sample t-test for Early and Late Responses

According to Lambert and Harrington (1990), non-response bias is "the differences in the answers between non-respondents and respondents" (p. 5). It is a normal scenario in survey research some respondents failed to respond to a survey, while others respond late. Hence, the need for researchers to test if respondents in these categories have any effect on the estimated sample of the study. The problem of non-response bias normally occurs when there is the inability to generate information from the targeted respondents. This is attributed to the refusal of the respondents to participate or difficulty in accessing the respondents (Baruch, 1999). Non-response may result to underrepresentation, thus affect generalization of the estimated sample of the population. (Zelkowitz & Cole, 2016)

In addition, Singer (2006) posits that high or low response is not the key determinant of non-response bias. Consequently, the study employed Armstrong and Overton (1977) extrapolation method to test non-response bias. Extrapolation is the process of dividing responses into two categories early and late. All responses with the first 40 days are termed as early respondents and those after 40 days are labelled late respondents. The distribution started in February 2016 and ended in April 2016. A total of 153 respondents filled and returned the questionnaires within the first 40 days of the data collection process, while 76 respond after 40 days.

Specifically, an independent sample t-test was carried out in other to ascertain non-response bias on any of the variables of the study i.e. strategic improvisation, entrepreneurial self-efficacy, corporate entrepreneurship, organizational culture and organizational performance. See Table 4.3 below.

Table 4.3
Group Descriptive Statistics for Early and Late Respondents

	Group	N	Mean	Std. Deviation	Std. Error Mean
Performance	Early	153	3.48	.65	.09
	Late	76	3.39	.67	.08
Strategic Improvisation	Early	153	3.66	.63	.06
	Late	76	3.78	.59	.07
Entrepreneurial Self-Efficacy	Early	153	3.51	.68	.09
	Late	76	3.63	.60	.07
Corporate Entrepreneurship	Early	153	3.38	.53	.09
	Late	76	3.26	.60	.07
Organizational Culture	Early	153	3.38	.65	.06
	Late	76	3.32	.68	.08

From table 4.3 and 4.4 above, independent-samples t-test using Levene's test for Equality of Variance standard deviation of the two groups (early and late) has not been violated. This is to say that both early and late respondents have no significant differences since all four variables of the study revealed a value of more than 0.05 significance level as suggested by Field (2009) and Pallant (2013).

Hence, the issue of non-response bias appeared not to be a source of concern in this study.

Table 4.4
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-taile)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Perf	Equal variances assumed	0.04	0.84	1.02	226	0.31	0.09	0.09	-0.09	0.28
	Equal variances not assumed			1.00	142.677	0.32	0.09	0.09	-0.09	0.28
SI	Equal variances assumed	0.86	0.36	-1.35	226	0.18	-0.12	0.09	-0.29	0.05
	Equal variances not assumed			-1.38	156.068	0.17	-0.12	0.08	-0.28	0.05
ESE	Equal variances assumed	1.33	0.25	-1.30	226	0.19	-0.12	0.09	-0.30	0.06
	Equal variances not assumed			-1.36	164.411	0.18	-0.12	0.09	-0.29	0.05
CE	Equal variances assumed	0.70	0.40	1.53	226	0.13	0.12	0.08	-0.03	0.27
	Equal variances not assumed			1.47	132.545	0.15	0.12	0.08	-0.04	0.28
OC	Equal variances assumed	0.25	0.62	0.62	226	0.54	0.06	0.09	-0.13	0.24
	Equal variances not assumed			0.61	141.526	0.54	0.06	0.09	-0.13	0.24

4.5 Common Method Variance Test

The possibility of common method bias to distort the data of the study is very likely, evidently from using the same instrument at a given time to collect data on both endogenous and exogenous constructs of the study. Common method bias refers to "variance that is attributable to the measurement method rather than to the construct of interest" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p.879). The problem of common method bias has been identified as one of the problems of behavioural research, especially those associated with self-report data.

CMV is a problem because it has been identified as the fundamental genesis of measurement error. It is important to realize is that the conclusion and validity of the measures, especially in empirical studies are been threaten by measurement error (random error and/or systematic errors) providing destitute or misleading conclusion (Podsakoff et al., 2003; Spector & Brannick, 2010). In fact, Conway and Lance (2010) stated that "common method bias inflates relationships between variables measured by self-reports" (p. 325). Viswanathan and Kayande (2012) argued that CMV occurs as a result of factors beyond the control of the respondents, thus, creating difficult in responding to the question correctly. Some of the factors identify includes "lack of verbal ability or education, complex or abstract questions, items ambiguity, double-barrelled questions, questions that rely on retrospective recall, lengthy scales, forced participation, repetitiveness of the items etc." (Viswanathan & Kayande, 2012, p.546-549).

The study utilized both procedural and statistical criteria to validate the non-existence of CMV. Accordingly, several steps that could minimize the effect of CMV were adopted as suggested by (Podsakoff et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012; Viswanathan & Kayande, 2012). Specifically, items wording of the study were clearly stated and structured to avoid any ambiguity. Also, repetitive and retrospective question; and lengthy scales were all avoided. Equally important to note is, respondents wittingly participated in the study after confidentiality assurance as well as the clarification, that there are no wrong or right answers.

In addition, to the above procedural measures taken to reduce the effect of CMV, literature also recommends the use of the statistical method to check CMV. Some of these statistical processes includes Herman's single factor test, multiple method factors and partial correlation method (Podsakoff, 1986) and MarkVar method (Lindell & Whitney, 2001). Common method variance was assessed using partial correlation technique. In this method, exploratory factor analysis is conducted on all the variables to evaluate for first unrooted factor. The assumption is that all unrooted factors have some element of CMV. Consequently, partial correlation was conducted to evaluate and assess the relationship that exists between the variables, while statistically controlling for CMV (Podsakoff, 1986; Podsakoff et al., 2003).

Exploratory factor analysis conducted on the variables that linked two of them with the CMV by loading in the first unrooted factor. Specifically, organizational culture and corporate entrepreneurship loaded on the first factor, indicating the existence of CMV. On the contrary performance, strategic improvisation and entrepreneurial self-efficacy don not load on the first factor. Partial correlation result is presented in Table 4.5 below.

Table 4.5
Result of partial Correlation

Control Variables	**Variables**		**SI**	**ESE**	**PERF**
CE & OC	SI	Correlation	1.000	.381	.239
		Significance (1-tailed)		.000	.000
		df	0	220	220
	ESE	Correlation	.381	1.000	.217
		Significance (1-tailed)	.000		.001
		df	220	0	220
	PERF	Correlation	.239	.217	1.000
		Significance (1-tailed)	.000	.001	
		df	220	220	0

From the above, it can be deduced that strategic improvisation and entrepreneurial self-efficacy have a correlation with performance after been controlled by corporate entrepreneurship and organizational culture. Specifically, the result shows that all the variables are significant at 1% considering their *P-value* that ranges from .000 to .001. This necessitates the conclusion that the common method bias is ineffective or not an issue in the present study.

4.6 Data cleaning and preliminary analysis

In multivariate analysis data screening and other preliminary examinations are vital in achieving qualitative data set (Hair, Black, Babin, & Anderson, 2010). This analysis provides an insight on any violation of the basic assumptions associated with multivariate analysis (Hair, Money, Samouel, & Page, 2007). In fact, conducting these analyses provides the researcher with understanding on how well the data fit the intended analysis. According to Hair et al. (2010) and Tabachnick and Fidell (2007), there are four basic issues to be put into consideration in data cleaning and preliminary analysis. They are (1) identification and replacement of missing values, (2) treatment of outliers, (3) testing of normality, and (4) multicollinearity tests. Moreover, prior to these basic issues above, all negatively related questions were reverse coded. Items reverse coded include CE3, OC9 and OC11.

4.6.1 Identification and Replacement of Missing Data

According to Tabachnick and Fidell (2007), missing value "is one of the most pervasive problems in data analysis... its seriousness depends on the pattern of missing data, how much is missing, and why it is missing" (p.62). Hence, the argument by many researchers that ignoring missing values in a study is a big minus in quantitative study. In fact, missing values reduced the statistical power, while increasing the standard error in the process. This affect the generalizability of the findings at the end of the study (Dong & Peng, 2013; Graham, 2009; Peng, Harwell, Liou, & Ehman, 2006; Roth, 1994; Schlomer, Bauman, & Card, 2010).

The present data is not free from missing values, despite the effort of the researcher and that of the research assistant in trying to reduce the number of missing values. However, a proactive measure of scanning through returned questionnaire drastically reduces the number of missing value. Respondents were kindly asked to fill the unanswered question to ensure proper representation of their views as well as the success of the research. Moreover, data were carefully entered to avoid any error or mistake on the part of the researcher, since missing data practically reduce the power and precision of the findings (Hussain et al., 2016).

The study has a total number 12,824 data points. This comprises 229 cases multiply by 56 items excluding categorical variables. Of this set, 157 missing data were detected, which accounted for 0.01% of the whole dataset (12,824), (see Table 4.3 below). Specifically, organizational performance has a total of 24 missing data, strategic improvisation 16, entrepreneurial self-efficacy 47, corporate entrepreneurship 46 and organizational culture 24.

Consequently, literature has classified various ways of replacing missing values. For example Hair et al. (2010) posited that all cases with more than 50% missing value should be deleted from the study. However, Schafer (1999) and Tabachnick and Fidell (2007) argued that data set with 5% and below missing cases cause no harm, as such are considered insignificant. Accordingly, data set with less than 5% missing figures are replaced using series mean (Tabachnick & Fidell, 2007). Using SPSS, all missing value were replaced with series mean. Summary of replaced missing data is presented in Table 4.6 below:

Table 4.6
Missing Value Analysis

Latent Variables	**Number of missing values**
performance	24
Strategic improvisation	16
Entrepreneurial self-efficacy	47
Corporate entrepreneurship	46
Organizational culture	24
Total Missing	157
Total Data Points	12824
Percentage Missed	.01%

4.6.2 Treatment of Outliers

According to Barnett and Salomon (2012) outliers are the scores that are extremely dissimilar with the majority of the data set. They are highly different and have a very likely negative effect on the t-value estimates (Hair et al., 2010), thus, making the result to be unreliable as well as irrelevant for practical implication (Verardi & Croux, 2008). The presence of outliers may be as a result of measurement variation or experimental error (Churchill & Iacobucci, 2004). However, outliers are high or low uncommon values spread across all the variables (Byrne, 2010) and are common in any random distribution. They are two recommended ways of assessing and treating outliers, univariate and multivariate method of data analysis.

Univariate is a process where extreme data point for one variable is determined, while multivariate is the combination of the variables of the study to access and treat extreme cases in more than one variable. The univariate outliers in this study were evaluated based on the recommendation of Tabachnick and Fidell (2007), that suggested a threshold of ±3.29 ($p < .001$) for standardized value. This is to say any value that is above ±3.29 is considered as a univariate outlier. Taking the criterion of Tabachnick and Fidell (2007) into consideration five (1,11, 29, 49, 72, 117, 123, 158, 174, 181, 197, and 218) outliers were detected using standardized *Z*-score as presented in Table 4.7 below:

Table 4.7
Outliers Identified based on standardized Values

Items	Cases with Standardized Values Exceeding ±3.29
SI2_1	72, 117, 1, 197, 181
SI5_1	218
ESE4_1	11, 49, 29, 123, 174
ESE5_1	158

In order to decide the faith of the identified outliers on whether to retain or delete them, the present study adopted an approach used by Bartholmé (2011). The approach requires evaluating the effects of the identified outliers on the overall model of the study. Outliers with a significant effect on the result are advised to be deleted, while those with no or less effect are retained for further analysis (Bartholmé, 2011).

Table 4.8
Effect of Identified Outliers on the Overall Measures of the Variables

Items	**Mean incl. 12 cases**	**Mean excl. 12 cases**	**Difference**	**SD incl. 12 cases**	**SD excl. 12 cases**	**Difference**
SI2_1	4.004	3.938	0.066	.7668	.8714	-0.105
SI5_1	3.966	3.906	0.059	.6965	.7920	-0.096
ESE4_1	4.041	3.952	0.089	.6965	.8946	-0.198
ESE5_1	4.023	3.961	0.062	.7100	.7854	-0.075

Note: SD Represents Standard Deviation

As shown in Table 4.8 above, in which 12 potential univariate outliers were identified from 4 items, the results indicates that these potential outliers have no strong effect on the whole model. This is evidenced from the mean and standard deviation which indicates that the outliers are not aberrant to other observations of the study. Moreover, Hair, Black, Babin, Anderson and Tatham (2010) have caution on deleting observation identified as potential outliers because they are representative of the larger population. Hence, for generalizability purpose only exceptional outliers should be deleted.

Furthermore, the study also examined the multivariate outliers using Mahalanobis distance (D2). Tabachnick & Fidell (2007) defined Mahalanobis distance (D2) as "the distance of a case from the centroid of the remaining cases where the centroid is the point created at the intersection of the means of all the variables" (p. 74). Items under each construct are collated, to get the total number of items in the study. Specifically, organizational performance has 9 items, strategic improvisation 7, entrepreneurial self-efficacy 6, corporate entrepreneurship 15 and 18 for organizational culture respectively. The study has 56 observed items altogether, with a corresponding chi-square value of 93.17 ($p = .001$), after Lessing 1 item from the 56 to determine the degree of freedom for the study. This implies that any case with a value equal 93.17 and above should be considered as multivariate outliers. Interestingly, none of the values in the Mahalanobis is near the threshold values, hence our data is free from multivariate outliers. In view of that, the final dataset stood at 224 that were used for further analysis.

4.6.3 Test of Normality

The concerned for individual construct and its linear relationship with another construct to be normally distributed is referred to as Normality (Tabachnick & Fidell, 2007). Therefore, making it one of the basic and key assumption in regression and multivariate analysis (Hair et al., 2010). Despite the traditional belief that PLS-SEM analysis is not affected by the normality of the data (Cassel, Hackl, & Westlund, 2000; Reinartz, Haenlein, & Henseler, 2009; Wetzels, Odekerken-Schröder, & van Oppen, 2009).

However, this assertion is now being challenged and questioned by Chernick (2011) who argued that it is very likely for bootstrapping results to be inflated in a highly skewed and kurtotic data. Eventually, this would affect and underestimate the statistical estimation of the path coefficient (Ringle, Sarstedt, & Straub, 2012). Consequently, Hair, Sarstedt, Ringle and Mena (2012) called on researchers using PLS-SEM to conduct normality test in their study.

In light of the above suggestion, the study used both statistical method of Skewness and Kurtosis as well as the graphical method to test for normality (Ghasemi & Zahediasl, 2012). This is because the Kolmogorov-Smirnov and Shapiro-Wilk test have been criticized for been too loose to provides enough justification of normally distributed data (Hair, Hult, Ringle, & Sarstedt, 2013).

Table 4.9
Result of Normality Test

Constructs	Skewness	Kurtosis
SI	-1.303	3.144
ESE	-.701	.333
CE	-.692	1.290
OC	-.836	.474
Perf	-.749	1.322

Consequently, a normality test using skewness and Kurtosis was conducted with the sole aim of improving the statistical accuracy of the analysis, especially the path coefficient estimations. The skewness and kurtosis result clearly indicates that all items are within the acceptable threshold of 2 for skewness and 7 for kurtosis. Specifically, the maximum and minimum numbers in Table 4.9 of skewness ranges from -.692 to -1.303, while, the values of the kurtosis range from a minimum of .333 to a maximum of 3.144, thus, satisfying the normality assumptions as recently suggested for PLS path modelling.

In the graphical method approach, the data set was plotted using the histogram in other to visualize the shape of the distribution as suggested by (Field, 2009), that sample of more than 200 should look at the graphical nature of the distribution, rather than the Skewness and Kurtosis. He argued that value of the standard error reduced as a result of large sample, which subsequently increase the Skewness and Kurtosis values. Similarly, Ghasemi and Zahediasl (2012) recommended that both graphical and statistical approach should be used in testing normality. Hence, the study data was used in plotting the histogram Figure 4.4 below to further validate the normality of the data.

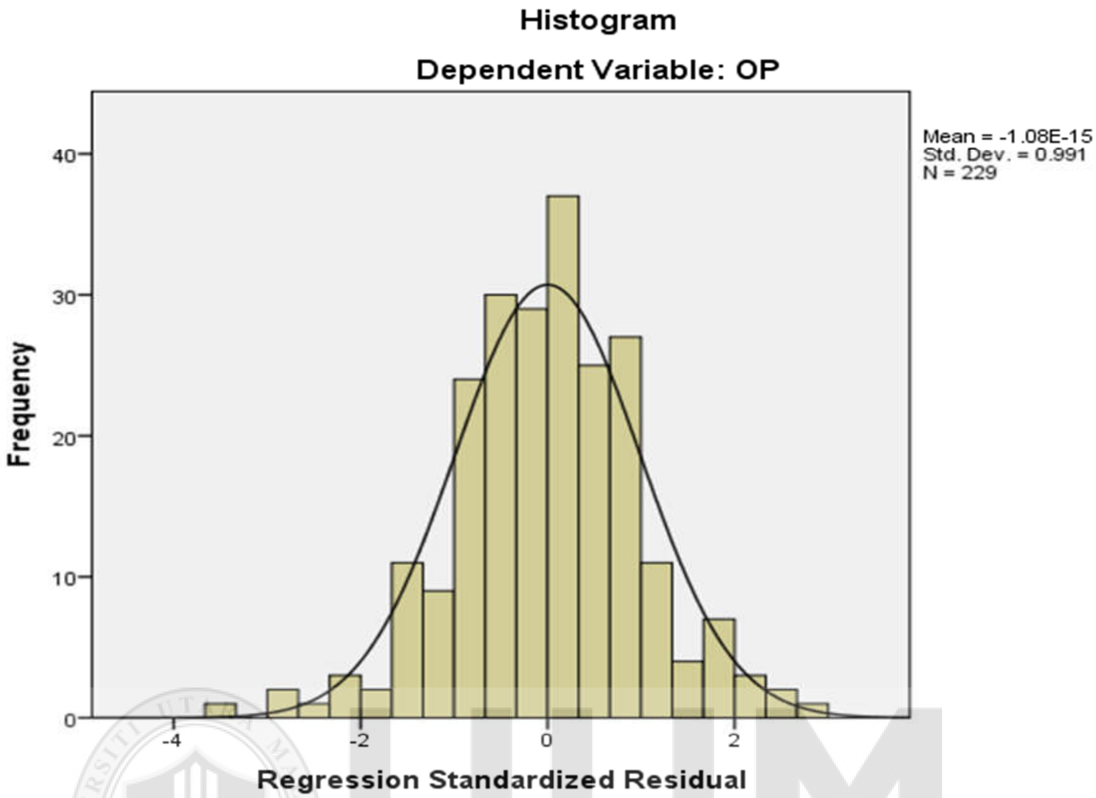

Figure 4.1
Histogram for Normal Distribution

Conclusively, the graph has established that the data of the study is normally distributed. Accordingly, the graph has justified that relationship between constructs is homoscedastic and that heteroscedasticity is non-existing (Tabachnick & Fidell, 2007).

4.6.4 Homoscedasticity

According to Tabachnick and Fidell (2007) homoscedasticity refers to "the variability in scores for one continuous variable is roughly the same at all values for

another continuous variable" pp. 85. Homoscedasticity explains that variance between independent variable should be similar across all the independent variables of the study (Rovai, Baker, & Ponton, 2013). Homoscedasticity assumptions has been considered as one of the basic for any multivariate analysis, which its violation may not only weaken the result but also be catastrophic especially for ungrouped data (Tabachnick & Fidell, 2007).

To validate the homoscedasticity assumption, the present study utilizes the scatterplot also referred to as standard residuals. The scatterplot is a process in which errors of residual (standardized values) are produced in relation to standardized value of the predicted variable of the study (Hair et al., 2010). For a data to fulfill the absence of homoscedasticity residual are expected to be fairly and equally distributed along the central point of zero. Interestingly, the scatterplot of the study in Figure 4.2 is adjudged not to have violated the assumptions of homoscedasticity as residuals were randomly distributed around zero and equally scattered above and below the central line.

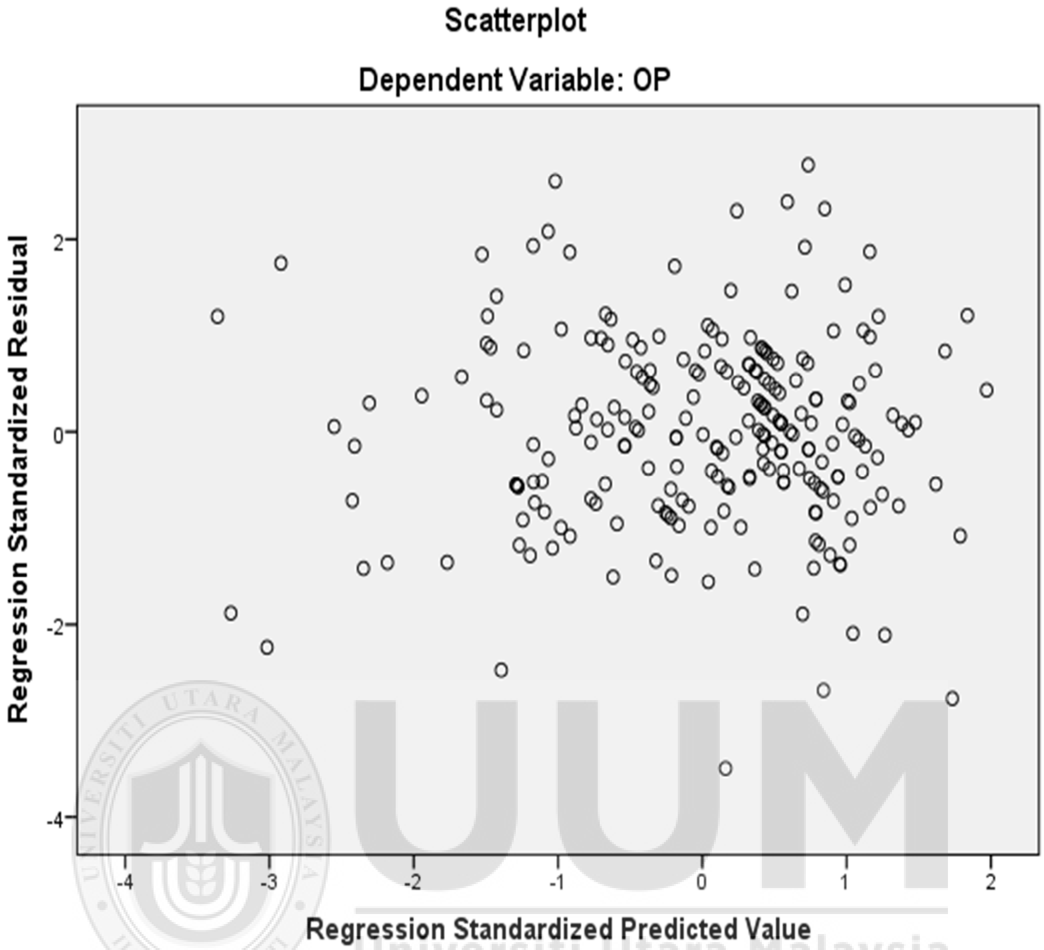

Figure 4.2
Standardized Residuals against the Standardized Predicted Value

4.6.5 Multicollinearity

In a normal situation, exogenous variables are expected to differ in such a way that their relationship should not be highly correlated (Tabachnick & Fidell, 2007). Exogenous variables should tell a different story in relation to the endogenous variable in a single research model. However, if this relationship is highly correlated, then the is high tendency of the coefficient of the regression model and the significance to be distorted (Tabachnick & Fidell, 2007). This is to say, that multicollinearity encloses information that are not necessary to the study, which subsequently weaken the analysis by increasing the size of the error term.

Hair et al. (2010) have identified tolerance and Variance Inflation Factor (VIF) as the two most common and reliable method for testing multicollinearity, especially in PLS path modeling. The tolerance should have threshold values of not less than 0.10, while that of VIF is any value that is equal to or less than 10. In essence, any value with either of the above indicates the existence of high multicollinearity among the exogenous variables. It is evidenced from Table 4.10 below those values of both Tolerance and VIF shows that none of the variables is highly correlated as such the data is free from multicollinearity.

Table 4.10
Multicollinearity test results using Tolerance and VIF

Exogenous Variable	Tolerance	VIF
Strategic Improvisation	.715	1.398
Entrepreneurial Self-Efficacy	.755	1.324
Corporate Entrepreneurship	.477	2.099
Organizational Culture	.512	1.953

4.7 Samples characteristics

This section provided demographic information of the respondents. It includes gender, marital status, age, qualification, work experience, years in current position, academic position, institution, and employer. Table 4.11 below summarized the demographic information of the respondents. For individuals, factors such as age, gender, working experience, marital status and educational qualification were analysed and discussed. In the organizational part thing like categories and sponsored are analysed.

Table 4.11
Demographic information of respondents

	Frequency	Percentage (%)
Gender		
Male	204	89.1
Female	25	10.9
Marital Status		
Single	39	17
Married	186	81.2
Divorced	1	0.4
Widowed	3	1.3
Age		
25-29 years	31	13.5
30-34 years	60	26.2
35-44 years	74	32.3
45-49 years	32	14
50 and above years	32	14
Highest Qualification		
HND/Degree	72	31.4
Masters	124	54.1
PhD	23	10
Others	10	4.4

Table 4.8 Continuation

	Frequency	Percentage %
Working experience		
Less than 5 years	95	41.5
6<10 years	56	24.5
11<15 years	34	14.8
16<20 years	15	6.6
21<30 years	29	12.7
31 and above years	0	0
Years in current position		
1<2 years	95	41.5
2<3 years	65	28.4
3<4 years	30	13.1
4<5 years	16	7
5 and above years	23	10
Academic position		
Lecturer	139	60.7
Senior Lecturer	65	28.4
Associate Professor	5	2.2
Professor	20	8.8
Institution		
University	85	37.2
College of education	91	39.7
Polytechnic	26	11.4
Others (Monotechnics)	27	11.8
Employer		
Federal Government	104	45.4
State Government	125	54.6

The characteristics of the respondents as shown above in table 4.8 highlight that 89.1% (204) were men, while 10.9% (25) are female. Important to realize is that differences in gender distribution, especially within the academic environment have been documented in previous studies. The study of Lara and Verano-Tacoronte (2007) and Kura (2014) all reported that majority HEIs staff are male.

Of the respondents 17% (39) are single, 81.25% (186) are married, 0.4% (1) divorced and 1.3% (3) are widowed. Also, the descriptive statistics shows that 13.5% (31) of the respondents age 25-29, 26.2% (60) of the respondents fall within the age bracket of 30-34, 32.3% (74) representing 35-44, 14% (32) aged between 45-49 and 14% (32) falls between 50 and above.

With respect to the qualification majority of the respondents holds a Master degree amounting to 54.1% (124), 31.4% (72) HND/Degree, while only 10% (23) had Ph.D. and the remaining 4.4% (10) had other professional qualification. Despite, Ph.D. has been the minimum requirement for teaching in Nigerian tertiary institutions; the majority of the staff are yet to acquire the degree. This has confirmed the assertion of former Nigerian President Dr Good luck Ebele Jonathan that “about 60 percent of lecturers don’t have PhDs and we reject it.” (Odiegwu, 2012).

The working experience of the academic leaders was also put into consideration. Majority of the respondents 41.5 % (95) have less than 5 years working experience, followed by 24.5% (56) with 6<10 years, 11<15 years have 14.8% (34), while 16<20 years and 21<30 years were represented 6.6% (15) and 12.7% (29) respectively. As seen above the majority of the academic leaders have less working experience, this is aimed at training them to the challenges of the institution at a younger age in order to inculcate leadership quality in them.

The table above also shows a high proportion of the academic leaders have been in that position for less than 2 years representing 41.5% (95), 28.4% (65) have 2<3 years, 13.1% (30) have 3<4 years, 7% (16) have 4<5 and finally 10% (23) have more than 5 years in that position.

Additionally, the academic position shows that about 60.7% (139) were Lecturer; followed by 28.4% (65) in the position of a Senior Lecturer, Associates Professor 2.2% (5) and 8.8% (20) are Full Time Professors.

Regarding institution affiliation, 37.2% belongs to the university system, 39.7% were from colleges of education, followed by polytechnics with 26% and finally others with 11.8%. Similarly, most of the respondents belong to the state own institution, with about 54.6%, while only 45.4% worked in federal government institutions in the state.

4.8 Descriptive Analysis of the Latent Constructs

After the overall data cleaning and screening, descriptive statistics of the latent variable of the study were also evaluated, presented and discussed. Specifically, 5 latent variables were analysis to determine their mean, standard deviation as well as the minimum and maximum values. Table 4.9 provides a summary of the descriptive statistics of the study.

Table 4.12
Descriptive statistics of latent variables

Latent Variables	**No. of items**	**Mean**	**Standard deviation**
Performance	9	3.494	.6008
Strategic improvisation	7	3.745	.5233
Entrepreneurial self-efficacy	6	3.588	.6050
Corporate entrepreneurship	15	3.066	.4723
Organizational culture	18	3.784	.6645

With a total of 229 valid responses, the mean of the study ranges from 3.066 to 3.784, while that of the standard deviation ranges from .4723 to .6645. It is clear that OC has the highest mean and standard deviation, then followed by SI in terms of mean and second to the last in standard deviation. ESE is next in the mean value as well as the standard deviation, and lastly CE in both mean and standard deviation value. It can also be deduced from the table above, that the response variation that ranges from 60 % to 47% indicates that on average the respondents have agreed with the question of all the variables of the study with little deviation of .4723.

4.9 Evaluation of PLS-SEM Path Model Results

Structural equation model (PLS-SEM) is a second generation statistical tools that involve latent variables and multiple indicators that usually requires a small size. Recently, Hair, Ringle and Sarstedt (2013) have questioned the reliability and validity of using Goodness-of-Fit (GoF) to determine the validity of a model. They argued that goodness-of-fit provides no disparity between valid and invalid model. Recon on this Chin (1998) two-step method criteria when using structural equation modeling was used. Consequently, the present study adopted this suggestion to estimate, evaluate and report the finding of the study using PLS-SEM as suggested by Henseler, Ringle and Sinkovics (2009). The two basic steps involve in PLS analysis are (1) measurement model and (2) structural model (Henseler et al., 2009; Norman & Streiner, 2003).

Specifically, measurement model is concern about items allocation to latent constructs, while the structural model deals with the relationship that exists between dependents and independents variables. This process guide and provides an avenue in which relationship and interrelationships between latent construct are predicted and explained (Chin & Newsted, 1999). In essence, it simultaneously provides the estimate between measures and constructs (measurement model) and between construct with other constructs (structural model) (Hulland, 1999).

4.9.1 Assessment of measurement model

Assessing measurement model (outer or factor model) is the first step of SmartPLS analysis. The measurement model is key in determining the goodness, reliability, and validity of the measures used (Ramayah, Lee, & In, 2011). It involves assessing individual item reliability, internal consistencies of the items, convergent and discriminant validity respectively (Barclay, Higgins, & Thompson, 1995; Fornell & Larcker, 1981). Figure 4.3 and Table 4.13 indices for below highlights the basic requirements and threshold indices of a reflective measurement model evaluation.

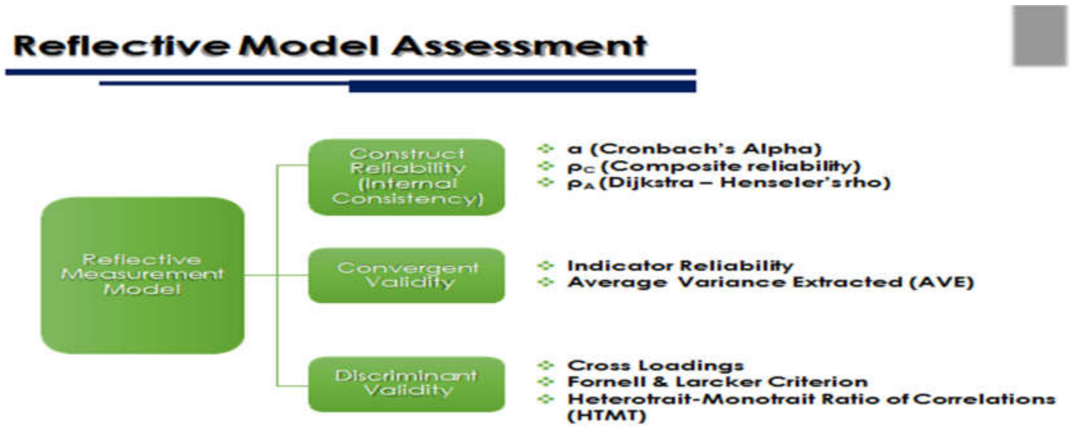

Figure 4.3
Basic requirements of Measurement Model

Table 4.13
Indices for Measurement Model Analysis using PLS – SEM

Assessment Test	**Name of Index**	**Level of Acceptance**	**Literature Support**
1. Reliability	1.Internal Consistency Reliability	Cronbach Alpha > 0.7	Robinson, Shaver & Wrightsman (1991)
		Composite Reliability > 0.708	Hair et al (2010), Hair et al (2014)
		Dijkstra-Henseler's rho (pA)	Dijkstra and Henseler, (2015)
2. **Convergent Validity**	1. Average Variance Explained (AVE)	AVE score > 0.5	Hair et al (2010), Hair et al (2014)
	2. Factor Loadings	Loadings for indicators > 0.708	Hair et al (2014)
3. **Discriminant Validity**	1. Cross-Loadings Assessment	Cross-loadings scores differ by 0.1	Vinzi, Henseler, Chin & Wang (2010)
	2. Fornell and Larcker criterion (1981)	AVE > r^2	Hair et al (2010), Hair et al (2014)
	3.HTMT criterion (2014)	HTMT.85, HTMT.90, HTMTinference	Henseler et al (2014) HTMT.85 – Kline (2011), HTMT.90 – Gold, Malhotra, Segar (2001).

4.9.1.1 Internal consistency

Internal consistency refers to the convergence of sub-item of a particular construct in order to measure the same construct (Bijttebier et al., 2000). In essence, composite reliability measures inter-items consistency, hence, ensures the existence of correlations among sub-items of a construct. Composite reliability is measured by dividing the total of the individual square loadings with the total individual square loading plus the total error terms. The most common method of assessing internal consistency are Cronbach's alpha (Cronbach, 1951) and Composite reliability (Fornell & Larcker, 1981). Recently, Dijkstra and Henseler (2015a, 2015b) introduced what they referred to as Dijkstra-Henseler's rho (P_A), they argued that both Cronbach's alpha and Composite reliability cannot be trusted. Hence, the present study adopted all the three method in ascertaining internal consistency to clear doubt in the validity of the study.

According to Barclay et al. (1995), Cronbach's alpha presume that all items provide equal contribution when measuring a construct, while composite reliability provides individual item contribution when assessing construct reliability (Fornell & Larcker, 1981). Thus, providing a more accurate and better estimate than the Cronbach's alpha. In addition, number of items does not influence composite reliability estimation. Bagozzi and Yi (1998) rule of thumb of at least .70 or more was used in interpreting the composite reliability of the study. The composite reliability of the study is all above .70, as they ranged from .786 to .933.

However, even composite reliability is not free from errors or doubt, because prior studies stated that “parameter estimates for paths between observed variables and latent variable proxies are biased upward in PLS (away from zero), while parameter estimates for paths between proxies are attenuated” (Gefen, Rigdon, & Straub, 2011, p. vi). In respond to the above shortcoming of composite reliability, Dijkstra and Henseler (2015) introduced another reliability coefficient to assess internal consistency reliability as a panacea to lack of inconsistency associated with both CA and CR. The new method is termed as Dijkstra-Henseler's rho (P_A) which indicates reliability when values are above 0.70. Table 4.10 presents a summarized version of both internal consistency and convergent validity of the constructs of the study.

4.9.1.2 Convergent Validity

According to Hulland (1999), individual reliability is the process of assessing loading of the multiple items in relations to their respective construct of the study. The items of a particular construct are expected to be consistent in measuring the proposed construct (Hair et al., 2013). Achieving reliability and validity explained that the items are free from random errors and systematic errors. The individual item reliability was assessed using their individual loadings, obtained from PLS algorithm result. Researchers argued that latent variable should explain at least 50% of the variance in the observed variable was shared with the construct (Barclay et al., 1995; Henseler et al., 2009). There exist several kinds of literature (Churchill & Iacobucci, 2004; Hulland, 1999) on the threshold or rule of thumb regarding individual item reliability. However, the majority of scholars agreed on loadings between 0.4 and 0.7 (Hair et al., 2013). Following this suggestion, all items with less than 0.4 were subsequently deleted.

Table 4.14
Loadings, Composite reliability and Average Variance extracted

Items	**Factor Loadings**	**A**	**Pc**	**P_A**	**AVE**
CE1	0.747	0.893	0.913	0.901	0.540
CE11	0.774				
CE14	0.629				
CE15	0.833				
CE2	0.664				
CE5	0.686				
CE6	0.760				
CE8	0.791				
CE9	0.710				
ESE1	0.726				
ESE4	0.786	0.735	0.804	0.784	0.578
ESE5	0.768				
OC1	0.634				
OC10	0.781	0.934	0.943	0.937	0.562
OC12	0.719				
OC14	0.659				
OC17	0.643				
OC18	0.736				
OC2	0.777				
OC4	0.822				
OC5	0.808				
OC6	0.806				
OC7	0.775				
OC8	0.750				
OC9	0.804				
Perf2	0.741				
Perf3	0.763				
Perf4	0.735	0.885	0.909	0.889	0.556
Perf5	0.746				
Perf6	0.657				
Perf7	0.814				

Table 4.14 Continuation

Perf8	0.696				
Perf9	0.804				
SI2	0.753	0.730	0.831	0.741	0.552
SI3	0.744				
SI4	0.788				
SI7	0.682				

Note: A= Cronbach's Alpha, P_C= Composite reliability, P_A= Dijkstra–Henseler's rho, AVE=Average variance extracted

A more conventional way of testing reliability and convergent validity is the average variance extracted (AVE) (Fornell & Larcker, 1981; Johnston, McCutcheon, Stuart, & Kerwood, 2004). According to O'Leary-Kelly and Vokurka (1998), convergent validity is "the degree to which multiple methods of measuring a variable provide the same results" (p.399). Specifically, convergent validity is a process of justifying the theoretical relationship of the construct in the model (Henseler et al., 2009). The Average Variance Extracted (AVE) has been suggested as the best method in achieving convergent validity (Fornell & Larcker, 1981). Accordingly, Chin (1998) recommends .50 or more as the accepted AVE value on each of the latent construct. Relying on this, the present study latent construct has all exceed in .50 thrash hold, with values ranges from .515 to .636. Thus, satisfied the convergent validity requirement (Henseler et al., 2009) (see table 4.10). An AVE value of 0.50 refers to the fact that half of the variance of the manifest variable is explained by the latent variable on average (Hair et al., 2013; Henseler et al., 2009).

4.9.1.3 Discriminant validity

The last validity of the measurement model is the discriminant validity. Discriminant validity is aimed at examining the difference that exists between constructs in the study (Barclay et al., 1995). Despite aiming at explaining the same thing, constructs are expected to be dissimilar, thus, sharing more with its items than the other constructs. Specifically, measures of one construct are not expected to overlap in the territory of another construct. Adequate discriminant validity is achieved when a construct shares more variance than it does with other construct of the model. They are two conventional methods of assessing discriminant validity: (1) square root of the AVE (Fornell & Larcker, 1981) and the factor loading and cross loading (Henseler et al., 2009). Recently, Henseler, Ringle and Sarstedt (2015) criticized the Fornell and Larcker (1981), thus, suggested the use of based on the multitrait-multimethod matrix, to assess discriminant validity.

The first method factor loadings and cross loadings was used to established discriminant validity. According to Barclay et al. (1995), loadings and cross loading can be used to assess discriminant validity, this is to ensure that no indicator is incorrectly assigned to a wrong factor (Jörg Henseler, Hubona, & Ray, 2016). Henseler et al. (2009) stated that while Fornell and Larcker ascertain discriminant validity at the construct level, the cross loading ascertains it at the item or indicator level. The cross loadings thresh hold is 0.50 and above (Hair et al., 2010). However, values greater than 0.40 is also accepted, except in a situation where deleting them will enhance the CR and AVE of the study.

Following this recommendation, Table 4.11 indicates that all the items were above 0.4. Specifically, all indicator of the construct loaded high on their main or parent constructs, thus, achieving discriminant validity. However, Hair, Ringle, & Sarstedt (2011) criticized the cross loading method as liberal in confirming validity. Table 4.11 below presents the cross loading of the study.

Table 4.15
Cross loadings

	CE	ESE	OC	OP	SI
CE1	**0.747**	0.244	0.511	0.444	0.197
CE11	**0.774**	0.416	0.538	0.541	0.416
CE14	**0.629**	0.184	0.506	0.517	0.298
CE15	**0.833**	0.321	0.672	0.626	0.353
CE2	**0.664**	0.244	0.400	0.349	0.227
CE5	**0.686**	0.295	0.499	0.517	0.296
CE6	**0.760**	0.262	0.575	0.626	0.389
CE8	**0.791**	0.281	0.568	0.567	0.34
CE9	**0.710**	0.307	0.468	0.431	0.236
ESE1	0.298	**0.726**	0.225	0.257	0.338
ESE4	0.318	**0.786**	0.233	0.224	0.370
ESE5	0.269	**0.768**	0.226	0.204	0.483
OC1	0.540	0.139	**0.634**	0.462	0.082
OC10	0.532	0.238	**0.781**	0.588	0.280
OC12	0.570	0.259	**0.719**	0.608	0.333
OC14	0.447	0.164	**0.659**	0.532	0.253
OC17	0.495	0.159	**0.643**	0.501	0.208
OC18	0.548	0.176	**0.736**	0.681	0.305
OC2	0.616	0.225	**0.777**	0.589	0.227
OC4	0.592	0.314	**0.822**	0.655	0.274
OC5	0.573	0.239	**0.808**	0.599	0.222
OC6	0.610	0.266	**0.806**	0.619	0.314
OC7	0.533	0.303	**0.775**	0.618	0.317
OC8	0.505	0.185	**0.75**	0.552	0.355
OC9	0.506	0.223	**0.804**	0.634	0.296
Perf2	0.479	0.254	0.570	**0.741**	0.304
Perf3	0.505	0.197	0.563	**0.763**	0.316
Perf4	0.515	0.241	0.584	**0.735**	0.320

Perf5	0.507	0.309	0.586	**0.746**	0.394
Perf6	0.512	0.209	0.492	**0.657**	0.285
Perf7	0.608	0.281	0.655	**0.814**	0.361
Perf8	0.521	0.149	0.583	**0.696**	0.324
Perf9	0.591	0.167	0.659	**0.804**	0.243
SI2	0.336	0.363	0.269	0.297	**0.753**
SI3	0.269	0.312	0.267	0.354	**0.744**
SI4	0.374	0.454	0.316	0.365	**0.788**
SI7	0.284	0.408	0.205	0.235	**0.682**

Fornell and Larcker (1981) recommend the use of AVE while determining discriminant validity. The square root of the AVE should be higher than any pair of its correlations with any other factor (Gefen & Straub, 2005). Consequently, the discriminant validity of the present study using AVE was compared with the correlation of the correlation matrix of each construct as shown in table 4.12. Taking Fornell and Larcker (1981) criteria all the values (bold) are greater in their parent construct than its relation with another construct. Consequently, it has been concluded that discriminant validity has been achieved (Hair et al., 2013; Henseler et al., 2009). Conclusively, both indicator and construct discriminant validity have been achieved from the above, by providing empirical support that both sub-construct and construct are assumed to be theoretically different.

Table 4.16
Fornell and larker discriminant validity

	1	2	3	4	5
CE	**0.735**				
ESE	0.390	**0.760**			
OC	0.426	0.300	**0.750**		
Perf	0.312	0.303	0.309	**0.746**	
SI	0.428	0.518	0.361	0.427	**0.743**

CE- Corporate entrepreneurship, **OP**- Organisational performance, **ESE**- Entrepreneurial self-efficacy, **SI**- Strategic improvisation and **OC**- Organisational culture. **Note**: Values on the diagonal (bolded) are the square root of the AVE while the off-diagonals are correlations.

Interestingly, the Fornell and Larcker (1981) was also criticized and found lacking in detecting discriminant validity (Henseler et al., 2015). Accordingly, Henseler et al., (2015) suggested an alternative approach, based on the multitrait-multimethod matrix, to assess discriminant validity: the heterotrait-monotrait (HTMT) ratio of correlations (Henseler et al., 2015). The HTMT is more rigorous as it compares items both between and within. Discriminant validity was tested using this new method, and results are shown in Table 4.13. Generally, HTMT value are expected to be less than one, however, Henseler, Ringle and Sarstedt (2015) adopted the use of $_{.85}$ and $_{.90}$ as the basic recommended threshold. The HTMT values of the present study as presented in Table 4.13 are all less than 0.90, indicating that discriminant validity is not a problem in the present study.

Table 4.17
Heterotrait-Monotrait Ratio (HTMT)

	1	2	3	4
CE				
ESE	0.510			
OC	0.787	0.385		
Perf	0.785	0.402	0.862	
SI	0.511	0.766	0.426	0.525

Shaded boxes are the standard reporting format for HTMT procedure

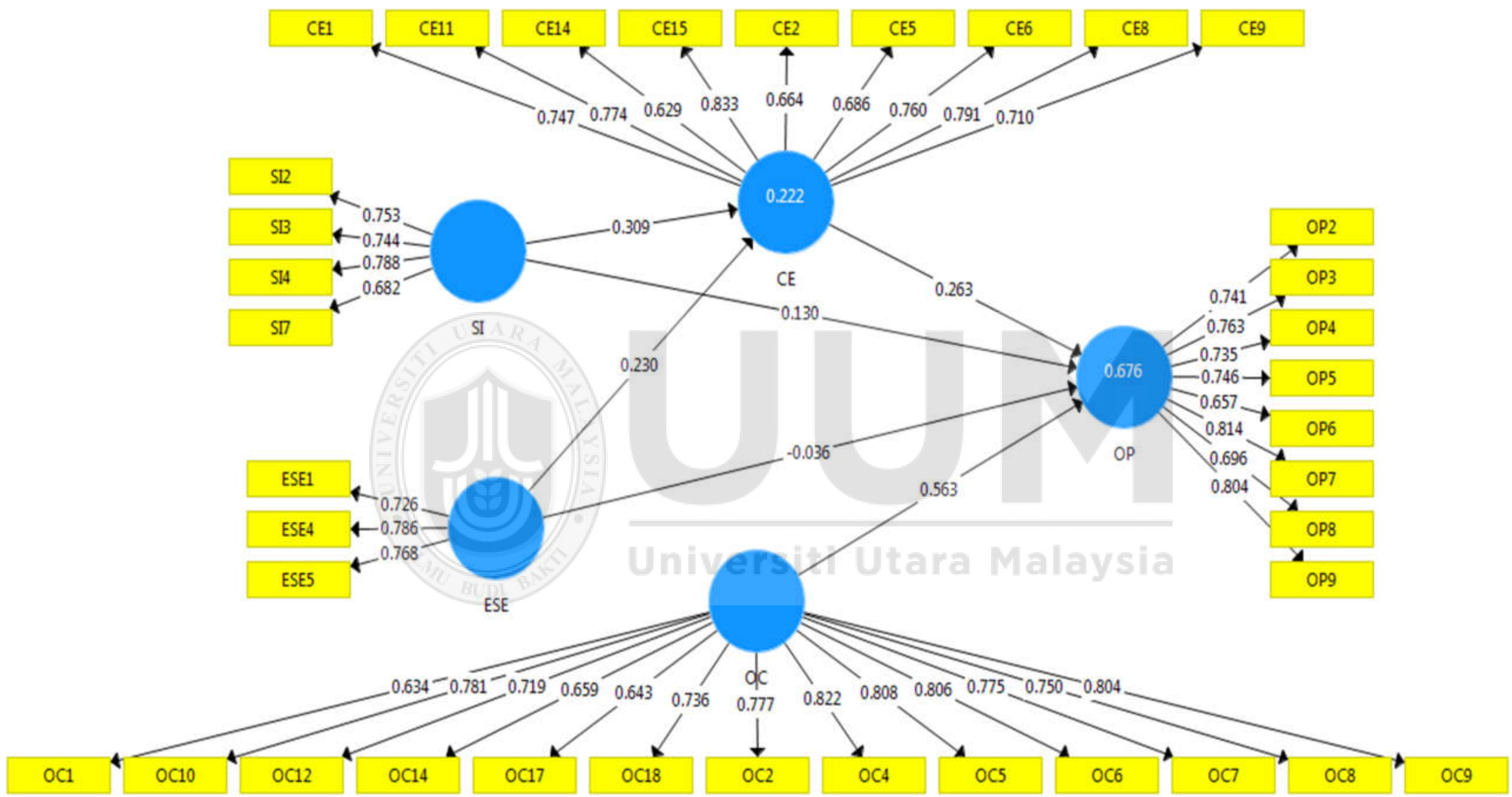

Figure 4.4
Measurement Model

4.9.1.4 Face Validity

A rift between conceptual construct and practical issues is almost common in research, this occurs because of the differences that exist between the construct and the observations. Construct are just typical ideas, while the practical indicators are the real observation (Neuman, 2006). Hence, the need to control or reduce this gap to the minimum level is encouraged. Accordingly, Sekaran (2003) defined validity as the process of ensuring the accuracy of the indicators to measure the specific construct aimed to measure. In essence, validity measures the fitness of the indicators of the study in relation to the conceptual definition (Neuman, 2006). Face validity is "a judgment by the scientific community that the indicator really measures the constructs" (Neuman, 2006). Face validity can be achieved by means of generating questions related to the indicators through available literature. The adopted or adapted questions are further validated by a group of experts or consultants, to ensure their suitability and comprehensiveness.

To achieve face validity of the construct, reliable and well document literature was consulted as explained in section 3.12.2 of chapter three. Also, a pre-test was also conducted were respondents (experts, academics and Ph.D. colleague) were asked to provide suggestions on the fitness of the indicators as in relation to the constructs of the study. The result yielded a positive outcome as various issues were raised, discussed and later refine to improve the clarity and simplicity of the questionnaire.

4.9.2 Structural Model Assessment

The validity of the outer model (measurement model) gives room for evaluating the inner (structural model) (Henseler et al., 2009). The structural model is concern about VIF, R^2 , coefficient and t-value by way bootstrapping (Hair et al., 2013). Additionally, the model predictive relevance (Q^2), as well as the effect size (f^2) of each construct, was explained by the structural model. The inner model is to evaluate the significance of loadings and paths coefficient that exists between construct (Barclay et al., 1995). Specifically, the structural model is aimed at model evaluation as well as an examination of the regression and correlation assumption between the variables of the study. The present study used bootstrapping of 5000 samples and 229 cases to test the significance of the relationship using path coefficient (Hair, Ringle, & Sarstedt, 2011; Henseler et al., 2009).

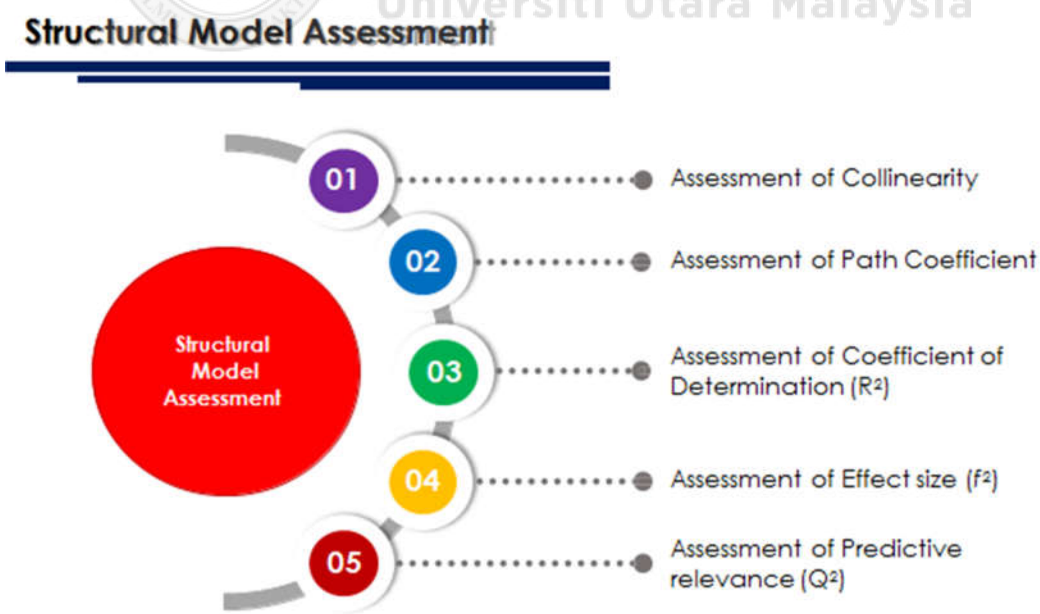

Figure 4.5
Steps in examining structural model

Table 4.18

Indices for Structural Model Analysis using PLS – SEM

Assessment Test	Name of Index	Level of Acceptance	Literature
1. Collinearity	Variance Inflator Factor (VIF)	VIF < 3.3 / VIF < 5.0	Diamantopoulos & Sigouw (2006), O'Brien
2. Path Co-efficient	Path Co-efficient	p value < 0.05, t value > 1.96	Hair et al., (2014)
3. R^2	Co-efficient of determination	0.75 – Substantial 0.50 – Moderate	Hair et al., (2014),
4. f^2	Effect size to R^2	0.35 – Large effect size 0.15 – Medium effect	Hair et al., (2014), Cohen (1988)
5. Q^2	Stone-Geisser Q^2 Predictive relevance	Value larger than 0 indicates that exogenous constructs have	Stone (1974), Geisser (1974), Hair et al.,

4.9.2.1 Assessment of Collinearity

It could be recalled that VIF and tolerance level have been calculated in section 4.6.4 and presented in Table 4.7, were all the values are found to be within the acceptable threshold. Specifically, the VIF values ranges from 1.398 to 2.099 which all falls below 10 as suggested by Tabachnick and Fidell (2007). However, in order to further validate and avoid misleading result (Kock & Lynn, 2012), PLS provides another VIF test at the structural model. The VIF in the structural model evaluates between exogenous and endogenous construct depending on the number of relationship that exists. Using all the available threshold of ≥ 3.3, ≥ 5 and ≥ 10 (Diamantopoulos & Siguaw, 2006; Hair et al., 2011) respectively, the values of the present studies in Table 4.19 indicates that VIF is not in any way a problem.

Table 4.19
Collinearity using VIF

First set Constructs	VIF	Second set constructs	VIF
Corporate Entrepreneurship	2.56	Entrepreneurial Self-efficacy	1.367
Entrepreneurial Self-efficacy	1.435	Strategic improvisation	1.367
Organizational culture	2.29		
Strategic improvisation	1.518		

4.9.2.2 Assessment of Path Coefficient

The structural model evaluation was done at once. It examines the direct and indirect relationship that exists between exogenous and endogenous variables of the study. Thus, the need to provide a summary of all the hypotheses prior to their examinations. The study has 9 formulated hypotheses; it involves strategic improvisation, entrepreneurial self-efficacy as exogenous construct, while corporate entrepreneurship and organizational culture serve as mediating and moderating variables respectively to organizational performance as an endogenous variable or construct:

H1: There is a positive relationship between leaders' strategic improvisation and performance.

H2: There is a positive relationship between leaders' entrepreneurial self-efficacy and performance.

H3: Leaders' strategic improvisation is positively related to corporate entrepreneurship.

H4: Leaders' entrepreneurial self-efficacy is positively related to corporate entrepreneurship.

H5: Corporate entrepreneurship positively mediates the relationship between leaders' strategic improvisation and performance.

H6: Corporate entrepreneurship positively mediates the relationship between leaders' entrepreneurial self-efficacy and performance.

H7: Corporate entrepreneurship is positively related to organizational performance

H8: Organizational culture moderates the relationship between leaders' strategic improvisation and performance.

H9: Organizational culture moderates the relationship between leaders' entrepreneurial self-efficacy and performance.

Bootstrapping is a process of re-sampling the original samples into sub-sample which are randomly selected from the original sample to evaluate the path coefficient and the t-value of the hypothesized relationship. These values were used to decide on which hypothesis should be accepted or rejected. Important to realize is that PLS uses weighted value of the indicator of a latent construct to evaluate the construct score. This provides the exact linear combination that exists between indicators to explain the variance for both indicator and latent construct. The structural model not only provides relationship between set of indicators but also the relationship that exists between other latent construct of the study (Chin, Marcolin, & Newsted, 2003). Figure 4.4 below is the graphical result of the PLS bootstrapping, where the direction and beta value of each hypothesis; as well as the t-value.

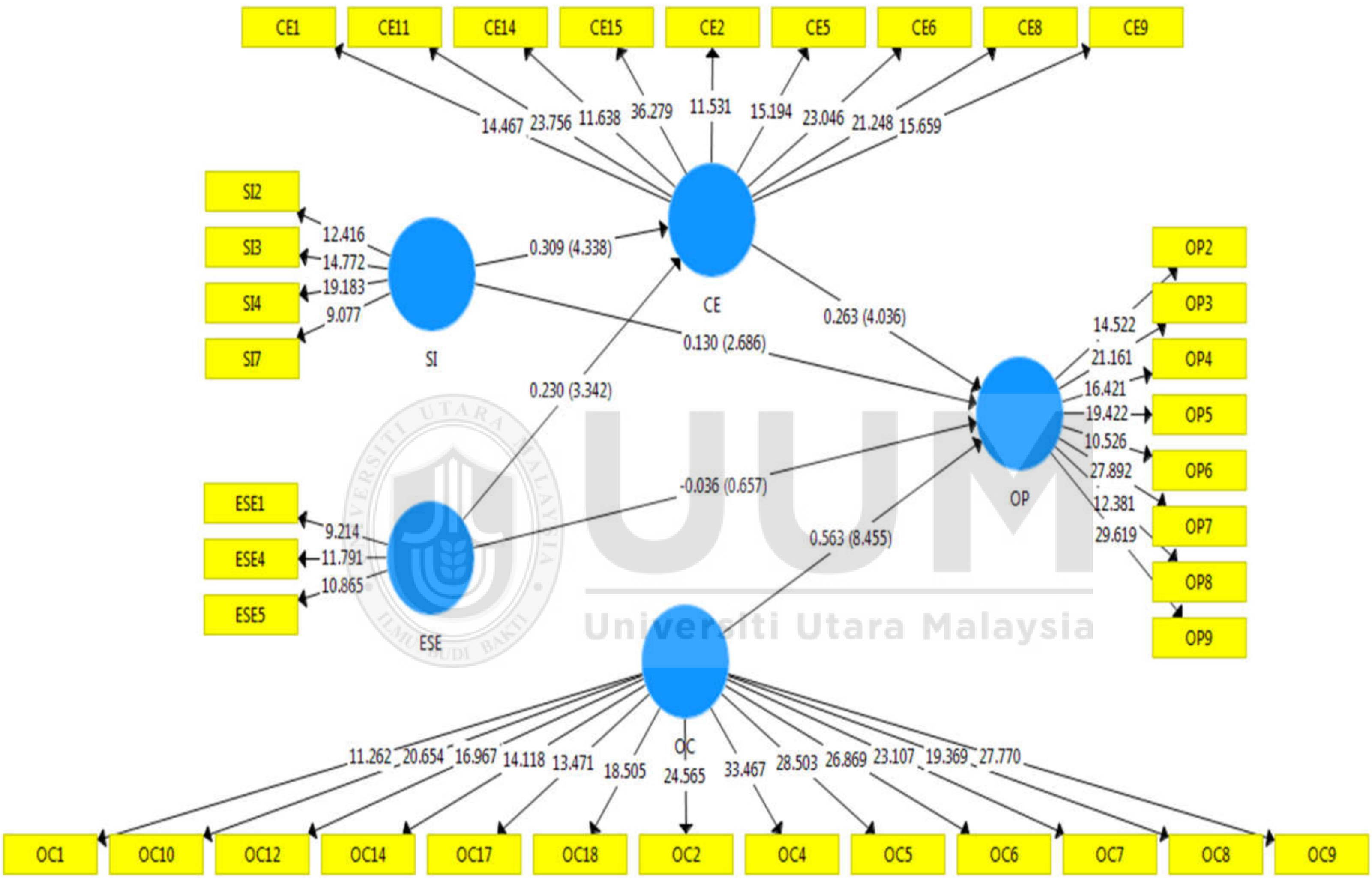

Figure 4.6
Structural Model (With mediation only)

4.9.2.3 Direct Relationship

Figure 4.4 above provides the graphical display of the standardized path coefficient (β) and T- values of the hypothesis in this study. Table 4.14 provides standardized path coefficient (β), T- values and confidence intervals as suggested by Cho and Abe (2013) summarized version of direct effect as well as the decision taken. In fact, MacKinnon et al. (2004) and Wood (2005) argued that confidence interval provides better information about the characteristics of the distribution better than pseudo t-value. It can be deduced from the table, that all direct relationship between exogenous variables (SI and ESE) were accepted. Also, the relationship between the two exogenous variables (SI and ESE) and corporate entrepreneurship was also accepted. Likewise, corporate entrepreneurship relationship with performance is strongly supported and accepted. In essence, five hypotheses were all accepted.

Hypotheses 1 postulate that leaders' strategic improvisation is positively related to performance. The result revealed a significant and positive relationship between Leaders' strategic improvisation and performance ($\beta = .130$, $t = 2.686$, $p < 0.00$). Consequently, providing support for hypotheses 1.

Similarly, hypotheses 2 predicts that entrepreneurial self-efficacy is positively related to performance is confirmed to be statistically supported with a fair ($\beta = -.036$, t-value=.657, $P = .256$) and thus rejected.

Table 4.20
Results of Direct Hypotheses

Hyp	Relationship	Beta	T Statistics	P Value	Confidence Interval 95%LL	95%UL	Decision
1	SI -> Perf	.130	2.686***	.000	0.053	0.212	Supported
2	ESE -> Perf	-.036	0.657	.256	-0.129	0.050	Not Supported
3	SI -> CE	.309	4.338***	.000	0.183	0.415	Supported
4	ESE -> CE	.230	3.342***	.000	0.104	0.332	Supported
5	CE -> Perf	.263	4.036***	.000	0.159	0.375	Supported

Note: ***Significant at 0.01 (1-tailed).

In the same vein, strategic improvisation is predicted to have a positive effect on corporate entrepreneurship was also confirmed and supported with an estimated (β= .309, t-value=4.338, P= .000). This result has the strongest result than any other hypothesis in the study, thus providing a substantial beta value and t-value. Also, the prediction of a positive relationship between entrepreneurial self-efficacy and corporate entrepreneurship is also significant and supported (β= .230, t-value=3.342, P= .000). Finally, the hypothesis that predicts that existence of a positive relationship between corporate entrepreneurship and performance is also accepted. The hypotheses also show a stronger result (β = .263, t = 4.036, p = .000).

4.9.2.4 Mediating effect relationship

Before the actual calculation of the mediating effect, it will be good to provide the original output of the direct and indirect effect of the study. This will give the actual picture of the mediating effect role in the model as well as the cause-effect relationship (Hair et al., 2013). According to Albers, (2010), the indirect effect is the summation of both direct and indirect effects that exists between two particular variables. According to Baron and Kenny (1986); and Hayes and Preacher (2010) content that the influence of X and Y through an intervening construct are the basic determinants of the indirect effect. Paths a" and b" put together which is interpreted as Y is expected to change as X changes as a result of X 's effect on M which, in turn, influences Y. In addition, confirmation of mediating effect in SmartPLS lies in the summation of total effect value, as it gives insight and also cause-effect of the relationship (Hair et al., 2013).

The path coefficients a and b of structural model in figure 4.6 was used in determining the indirect relationship. The basic idea of testing a mediating effect is to establish if the mediating variable influence on the independent variable can be extended to the dependent variable (Ramayah et al., 2011). Thus, the mediation of the present study was to ascertain the indirect effect of the two exogenous (strategic improvisation and entrepreneurial self-efficacy) on the endogenous variable (performance) through a mediating variable (corporate entrepreneurship).

There are several methods of conducting mediation test, this includes Sobel test (Sobel, 2013) or the causal steps approach-three conditions (Baron & Kenny, 1986), product distribution method (Mackinnon, Lockwood, & Williams, 2004) and bootstrapping (Hayes & Preacher, 2010; Hayes, 2009; Shrout & Bolger, 2002). All these methods have different conditions and requirements. Thus, the present study adopted the most robust method of bootstrapping or resampling mediation technique. The bootstrapping (re-sampling) technique has the advantage of analysing both main and indirect complex model effect simultaneously as the case in this study. Thus, making PLS-SEM as the most widely used method in mediation studies (Chin, 1998; Hair et al., 2011; Hayes & Preacher, 2010). Normally, PLS-SEM is linked with small sample size (Preacher & Hayes, 2004; Sosik, Kahai, & Piovoso, 2009), however, conclusion can also be made when studies involved larger samples (Hair et al., 2011).

In this study, mediation was evaluated using Kock (2013) suggestion of multiplying paths "a" and "b", after which the result obtained was divided by the standard error of the paths. This is shown in the formula below:

$$T = \frac{a * b}{S(a * b)}$$

where: "a" represent the relationship that exists between the independent construct and the intervening (mediating) construct, "b" represent the relationship between the intervening (mediating) construct and the dependent construct, while "S (a*b)" represent the standard deviation of path (a) and (b) highlighted above. Furthermore, the two paths "a" and "b" were all derived from PLS bootstrapping, which was used in determining the significant value of their coefficient as well as the standard error (Hair et al., 2013; Kock, 2013).

Table 4.21
Mediation Calculation Table

HP	Relationship	Path a	Path b	Indirect effect (a*b)	S(a*b)	T-Value a*b/S(a*b)	Confidence Interval 95%LL	95%UL
1	ESE -> CE ->Perf	.309	.263	.081	.022	3.694	.081	.124
2	SI -> CE ->Perf	.230	.263	.060	.028	2.160	.006	.115

Note: t-values are calculated using PLS bootstrapping routine with 229 cases and 5000 samples. Significance level is: ***p<0.01, ** p<0.05

In calculating bootstrapping in a meditation analysis, the path coefficient significance value is represented by "T". Mediation is established if T value is equal to or greater than 1.96 at 0.05 significance level using two-tail test, or 1.64 at 0.05 significance level using one-tail test (Hair et al., 2010). In addition, Hair et al., (2013) recommended the use of 5000 resampling while running a bootstrapping in SmartPLS. Traditionally, the t-value of the paths as presented above should be used in calculating the mediating effect using the formula provided earlier. However, PLS-SEM version 3.0 provides the result concurrently with that of the direct relationship. The present study tested the mediating effect of corporate entrepreneurship on the relationship between strategic improvisation and entrepreneurial self-efficacy to performance. The result as shown in Table 4.22 below all confirms the postulated hypotheses.

Table 4.22
Mediation Result

Hypothesis	Relationship	Beta	Std. Error	T Value	P Value	Decision
1	ESE -> CE ->Perf	.081	.022	3.694	.000	Supported
2	SI -> CE ->Perf	.060	.028	2.160	.032	Supported

Note: t-values are calculated using PLS bootstrapping routine with 229 cases and 5000 samples. Significance level is: ***p<0.01, ** p<0.05

Specifically, the relationship between leaders strategic improvisation and performance was statistically established and proven to be mediated by corporate entrepreneurship (β=.81, t=3.694, p<.000), thus necessitating the acceptance of hypotheses H6. Similarly, the prediction of corporate entrepreneurship to mediate the relationship between entrepreneurial self-efficacy and performance has also been confirmed (β=.60, t=2.160, p<.032), thus providing a strong support for accepting the hypothesis 7.

Furthermore, the study evaluates the variance accounted for (VAF) as recommended by Hair et al. (2014). The VAF is aim at evaluating the extent effect of the mediating variable. Despite Hayes (2013) submission that the effect of the mediating variable (full or partial mediation) should not be a source of worry so long as the indirect (effect) relationship is significant. VAF is a process that explains the proportional effect of indirect effect in relation to the total effect. Accordingly, the study utilizes Helm, Eggert and Garnefeld (2010) and Iacobucci, Saldanha and Deng (2007) VAF formula as stated below**:**

$$VAF = \frac{a * b}{a * b + c}$$

Where a = is coefficient value between independent variable and mediating variable,

b= is coefficient value between mediating variable and dependent variable,

c= is coefficient value between independent variable and dependent variable.

Using the result of the PLS bootstrapping in table 4.23, this section provides the result of the VAF values of the mediating effect of corporate entrepreneurship on the relationship between strategic improvisation and entrepreneurial self-efficacy.

Table 4.23

A recap of Direct and indirect effect result

Hyp	**Relationship**	**Beta**	**T Statistics**	**P Values**	**Confidence Interval 95%LL**	**95%UL**	**Decision**
1	SI ->Perf	.130	2.686***	.000	0.053	0.212	YES
2	ESE ->Perf	-.036	0.657	.256	-0.129	0.050	NO
3	SI -> CE	.309	4.338***	.000	0.183	0.415	YES
4	ESE -> CE	.230	3.342***	.000	0.104	0.332	YES
5	CE ->Perf	.263	4.036***	.000	0.159	0.375	YES

As stated above the VAF was also determined using the earlier mention formula. Specifically, the indirect effect size was evaluated on the relation between strategic improvisation and performance when mediated by corporate entrepreneurship.

$$VAF = \frac{0.309\ \times 0.263}{0.309\ \times 0.263 + 0.130}$$

$$VAF = 0.384665\ \cong 38\%$$

The results indicate that 38% of the total effect is been explained by the mediating latent variable (corporate entrepreneurship) on the relationship between strategic improvisation and performance. Accordingly, it can be deduced that the mediating effect of corporate entrepreneurship is partial. This is in line with Hair et al. (2013) classification, that VAF value that is less than 20% indicates absence of mediation, while 20% to less than 80% indicates partial mediation and 80% and above indicates full mediation.

$$VAF = 0.17\ \times \frac{0.230 \times\ 0.263}{0.230\ \times 0.263 + (-0.036)}$$

$$VAF = 2.469988\ \cong 247\%$$

The result is different from the previous hypothesis where we have a partial mediating effect, while this one has a value of 247% which is referred to as suppressor effect. Suppressor effect is a situation in which change in sign of the relationship occurs as a result of the inclusion of the mediating variables. For example, in the present study, the direct relation indicates a negative relationship with a β= -0.005 to further justify the rejection of the hypothesis. In particular, the VAF value highlights that corporate entrepreneurship contribution is important to performance which may arise as a result of individual ESE in the organisation.

In view of the results above, it can be concluded that corporate entrepreneurship mediating effect on leaders SI, ESE and performance is very strong and vital for management in understanding individual behaviour towards achieving organizational goals in today's dynamic environment. Precisely, the findings indicate that among the two exogenous variables that were mediated by corporate entrepreneurship, strategic improvisation has been mediated more strongly than entrepreneurial self-efficacy.

4.9.2.5 Moderating effect

It could be recalled that moderating variable has been fully explained in the literature section of the study. Moderating or intervening variable emerges as a result of the mixed finding, inconsistency or even the existence of no relationship between exogenous and endogenous construct. Specifically, it can be deduced that moderating variable is used to strengthen, weaken or even create a relationship. Henseler and Fassott (2010) stated that "moderating effects are evoked by variables whose variation influences the strength or the direction of a relationship between an exogenous and an endogenous variable" (p.713).

Henseler and Chin (2010) identified four methods of assessing moderating (interaction) effect in SmartPLS. These methods are product indicator approach

(Chin et al., 2003), a 2-stage approach (Chin, Marcolin, & Newsted, 2003; Henseler & Fassott, 2010), a hybrid approach (Wold, 1982), and an orthogonal approach (Little, Bovaird, & Widaman, 2006).

In this study, the product indicator method was used to evaluate, estimate and determine the moderating strength of organizational culture on the relationship between strategic improvisation, entrepreneurial self-efficacy and performance. Accordingly, Henseler and Fassott (2010) and Hair et al. (2013) recommended the use of product indicator when the moderating variable in use is a continuous variable. In addition, product indicator provides better result especially when compared with group compares approach method of testing moderation. In essence, an interaction is created in the dependent (endogenous) construct to indicate the moderating effect as shown in Fig 4.7 below.

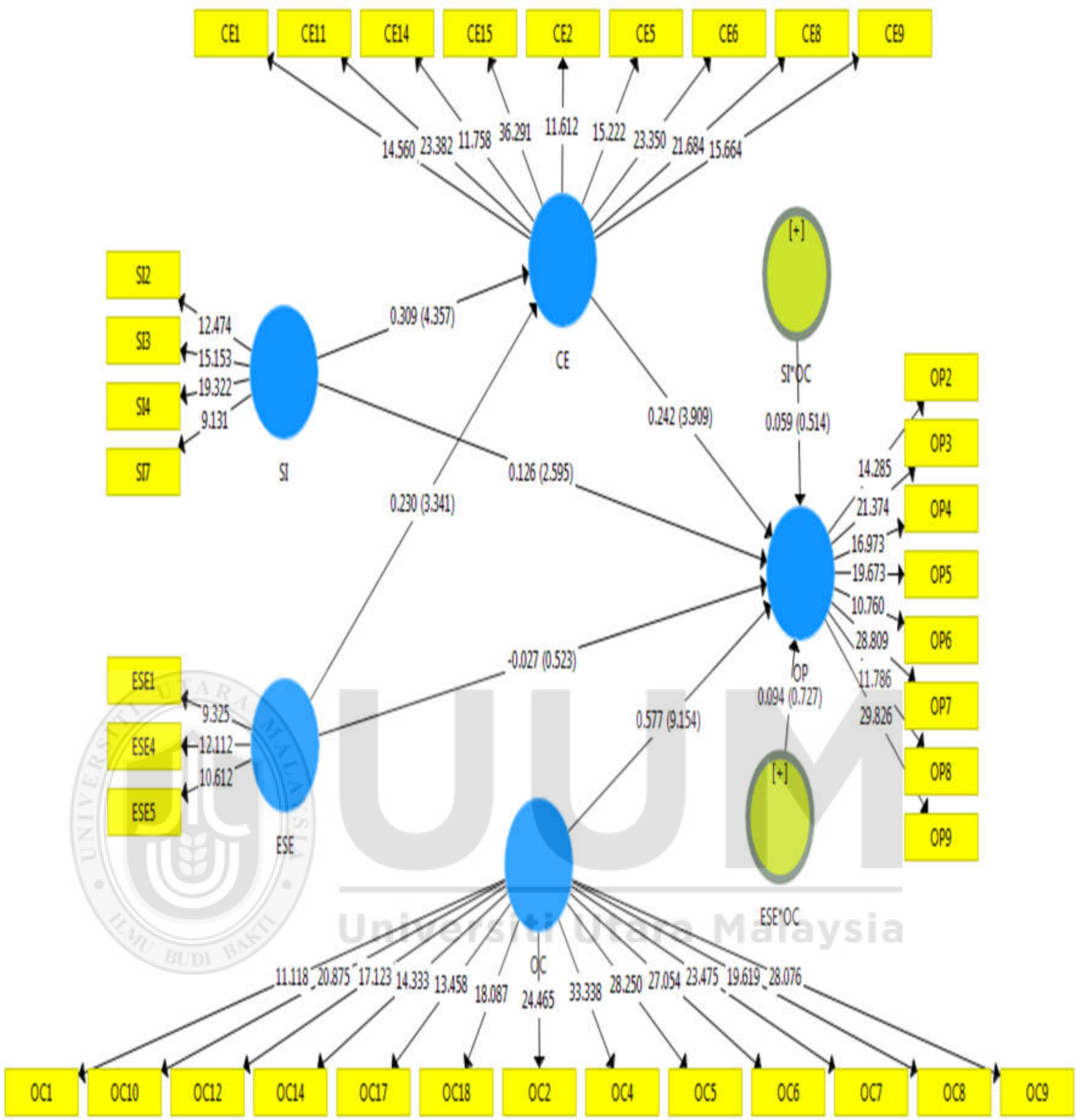

Figure 4.7
Moderation Model

It could be recalled that hypotheses 8 predicted that organizational culture moderates the relationship between strategic improvisation, entrepreneurial self-efficacy and performance. This relationship is specifically stronger for an organization with high organizational culture than those with lower organizational culture. Surprisingly, the two interaction postulated in the study were found to be not significant as shown in Fig 4.7 Above. Specifically, Table 4.24 below clearly shows that interaction term of strategic improvisation*organizational culture and performance is not significant (β..094; t=.727; p>.234); thus, necessitating us to reject hypotheses 8. Similarly, the interaction of entrepreneurial self-efficacy*organizational culture was also found to be not significant (β .059; t=.514; p>.303); hence, rejecting hypotheses 9.

Table 4.24
Result of Moderation Hypotheses Test

Hypothesis	Relationship	Beta	Std. Error	T Value	P Value	Decision
1	ESE*OC -> Perf,	.094	.130	.727	.234	Not Supported
2	SI*OC -> Perf.	.059	.116	.514	.303	Not Supported

4.9.2.6 Assessment of Variance Explained in the Endogenous Latent Variables

The next is to determine the R-squared value which is an important segment in assessing the validity of the structural model. The R-squared is also referred to as coefficient determinant (Hair et al., 2012; Hair et al., 2011; Henseler et al., 2009). The R-squared value clarifies the variance that exists in explaining endogenous variable as a result of one or two exogenous variables (Hair et al., 2010). According to Hair et al., (2011) the acceptable thresh hold value of accepting R-squared is .25, .50 and .75 described as weak, moderate and substantial respectively. However, the present study adopts Chin, (1998a) submission, who stated that R-square value of .19, .33 and .67 are described as small, medium and high respectively. The two endogenous variable performance and corporate entrepreneurship of the present study have the following R^2 values as shown in Table 4.16.

Table 4.25
Coefficient of determination (R^2) of the study

Construct	R^2	**Assessment Criteria**
Performance	0.695	Substantial
Corporate entrepreneurship	0.222	Small

Specifically, the predicting variables in the model explained 70% and 22.2% of the variance in performance and corporate entrepreneurship respectively. This is to say, that other variable that could explain the remaining model account for 30% and 78.8% respectively.

4.9.2.7 Assessing the (f^2) effect size

Having assessed and confirmed the postulated hypotheses of the study, the next criteria for the evolution of the structural model is the effect size (f^2) (Hair et al., 2013). Effect size highlight the relative effect of each exogenous variables on the endogenous variable(s), by way of looking at the changes that occur in the R-squared (Chin, 1998b). In essence, effect size looks at the contribution of each exogenous construct on endogenous one(s) resulting in a change in the R-square to understand its exploratory strength in the model. Additionally, the higher the f^2 the better the exploratory power of the construct. Thus, the effect size was calculated to reveal the effect of strategic improvisation, entrepreneurial self-efficacy on performance and also corporate entrepreneurship. Effect size is calculated as:

$$f^2 = \frac{R^2\ included - R^2\ excluded}{1 - R^2\ included}$$

Where

f^2 = effect sizes

R^2 included = R^2 inclusive (R^2 with a particular construct included in the model)

R^2 excluded = R^2 exclusive (R^2 with a particular construct excluded from the model)

1 = is constant

According to Cohen (1988) effect size is judged to be suitable if its values range between 0.35, 0.15 and 0.02, which is classified as large, moderate and small effect respectively. However, it has been stated that the tiniest or smallest value of a construct should not be neglected, as it can influence or causes variation in the endogenous variable(s). Conclusively, this values or classification helps in evaluating the utility or otherwise of the inclusion of a particular construct in the model. Interestingly, PLS3 provides the calculated effect size as shown in Table 4.17 below.

Table 4.26
Effect size of latent variables

Exogenous	**Endogenous**	F^2	**Effect size**
SI	Perf.	0.035	Small
ESE		0.003	None
CE		0.091	Small
OC		0.459	Large
SI	CE	0.090	Medium
ESE		0.050	Small

From the result display in Table 4.17 above, it could be deduced that all the variables have some exploratory power towards the endogenous constructs. Specifically, SI, ESE and CE (mediator) have small exploratory power (f^2) on performance. Surprisingly, OC despite not moderating the relationship between SI, ESE and performance have a medium effect on performance. For CE as endogenous construct SI has medium effect size, while ESE has small effect size.

4.9.2.8 Determining the Effect Size of the moderating variable

Accordingly, there is need for researcher to establish or identified the effect size of the moderating variable to know the actual strength or contribution of the variable. Specifically, the formula for establishing the effect size of a moderator is a follows:

$$f^2 = \frac{R^2\ model\ with\ moderator - R^2\ model\ without\ moderator}{1 - R^2\ model\ with\ moderator}$$

Based on the above formula, the results show that organisational culture has a small effect as a moderator on the relationship between the two exogenous variables and performance. However, the effect on corporate entrepreneurship relation has not change as a result of the inclusion of organisational culture. Table **4.27** presents the results of the effect size of organisational culture.

Table 4.27
Effect size of Organisational culture

OC	R^2**Included**	R^2**Excluded**	**f-squared**	**Effect size**
Perf	0.695	0.676	0.0623	Small
CE	0.222	0.222	0.0000	None

4.9.2.9 Predictive Relevance (Q^2)

Subsequent to determining the effect size or variation of the R-square, Hair et al. (2013) recommended that predictive relevance of the model should be ascertained using stone-Geisser's (Q^2) (Geisser, 1974; Stone, 1974). Duarte and Roposo (2010) argued that stone-Geisser's method of determining predictive relevance is an additional way of measuring goodness-of-fit of the model in SmartPLS. Predictive relevance is calculated using blindfolding procedure and cross-validated redundancy approach.

The process is a resampling technique where data are systematically deleted and predicted on each of the endogenous construct's indicators (Geisser, 1974; Hair et al., 2011; Stone, 1974). In fact, predictive relevance estimate how well the model of the study predict or represent omitted cases (Chin, 1998; Hair et al., 2013). The process is only befitting for endogenous reflective constructs to ascertain its predictive relevance in the model. If the Predictive relevance (Q^2) value is greater than zero, then the model has predictive relevance (Hair et al., 2013). It can be deduced from Table 4.18, that the model has a substantial and robust predictive relevance since positive higher value indicates more predictive relevance.

Table 4.28
Q^2 - Cross Validated Redundancy

Total	SSO	SSE	Q^2 (=1-SSE/SSO)
CE	1,374.00	873.679	0.364
Perf	2,290.00	2,022.36	0.117

As shown in table 4.18 above, all the values of the Q^2 are more than 0 standing at 0.364 and 0.117 in favour of Perf. and CE. Thus, exogenous variables of the study are confirmed to have predictive relevance on the endogenous variables (Hair et al., 2011). Specifically, the predictive relevance of the exogenous constructs on the two endogenous construct are large in line with Chin (1998a) classification. Chin (1998b) classified predictive relevance value into three main categories, 0.02, 0.15 and 0.35 to represent small, medium and large predictive relevance respectively.

4.9.2.10 Overall model fit

The goodness of fit (GoF) of the model is the geometric mean of the average AVE and average R^2 for endogenous constructs (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005; Wetzels et al., 2009). PLS goodness-of-fit index (GoF) was earlier suggested by Tenenhaus et al., (2005, p. 173) as "an operational solution to problem as it may be meant as an index for validating the PLS model globally" (Hair et al., 2013).

On the contrary, it has been argued the PLS does not provide statistical GoF justification. Thus, providing a number of argument on the empirical and conceptual significance of GoF, as it could not even differentiate between valid and invalid models (Henseler, Ringle, & Sarstedt, 2012). It is, therefore, justified that the strength of R-square, AVE, CR, Q^2 and bootstrapping provides more influence since they are more centred on nonparametric measures.

However, the recent development in PLS-SEM has come with a lot especially as a response to the constant critique of the need for a more rigorous analysis, especially for variance-based SEM (Jörg Henseler, 2017). One of these culminate development is the bootstrap-based tests of the overall model fit which is one of the key challenges in SEM. They are several methods of validating model fit, however, Schreiber (2016) identified absolute, parsimony, adjusted and predicted as the four most commonly used fit indexes. Absolute fit indexes is defined as that indexes that examines how well the new data fits into the model, while incremental is defined as process whereby the initial theorized model is compared to a new baseline model, such as null model. In essence, incremental is more of comparison between the original model and the new model. the Accordingly, Schreiber (2016) defined “parsimony-adjusted indexes have an adjustment for model complexity” and predictive indexes are hypothetical in nature, as they provides replication sample based on the original data to determine the fitness of the model.

In line with previous studies and the recent update on the SmartPLS 3.2.6 software, the present studies used Standardized Root Mean Square Residual (SRMR), Root mean square residual covariance (RMS theta) and Exact Model fit test using dg and dULS Normed fit index (NFI) indices to examine the model fit of the present study.

Figure 4.8
Indices for model fit analysis using PLS-SEM

Criterion	Description	Threshold Value	Reference
Standardized Root Mean Square Residual (SRMR)	Squared discrepancy between the observed correlations and the model-implied correlations. Should be close to zero	≤0.08	Henseler et al. (2014)
Exact Model fit test using dg and dULS	Bootstrapping-based test for significant discrepancies between the observed and model-implied covariance matrices.	Test should not be significant • dULS < 95% bootstrap quantile (HI95 of dULS) • dG < 95% bootstrap quantile (HI95 of dG)	Djikstra and Henseler (2015a)
Root mean square residual covariance (RMS theta)	Measures the degree to which the outer model residuals correlate. Should be close to zero.	≤0.12 – 0.14	For the criterion: Lohmoller (1989) For the threshold value : Henselert et al. (2014)
Normed fit index (NFI)	Measure the x^2 value of proposed model relative to the x^2 value of the null model	>0.90	For the criterion: Lohmoller (1989) For the threshold value : Bentler (1998); also see Bryne (2016)

The GOF of the present study as presented in Table 4.28 below, has indicated that the mode have achieved the threshold to established that the model and data fits in the study. Specifically, an SRMR value of 0.063 is found to be more than Ok as compared to the threshold of ≤0.08. In the same vein, all the dg and dULS values of the study are not significant with values of 1.347 and 2.816 respectively. Similarly, the RMS theta value of the study 0.11 and NFI indices recorded a value of 0.93 to indicated full model fit as values are less than the threshold values of ≤0.12-0.14 and >0.90 respectively.

Table 4.29
Summary of results of model of fit indices

Measures	Fit indices
SRMR	0.063
RMS theta	0.11
Dg	1.347
dULS	2.816
NFI	0.93

Table 4.30
Recapitulation of the Hypotheses Tests Results

Hypotheses	**Statement of hypotheses**	**Decision**
HI	SI is positively related to performance	Supported
H2	ESE is positively related to performance	Not Supported
H3	CE is positively related to performance	Supported
H4	There is a positive relationship between SI and CE	Supported
H5	There is a positive relationship between ESE and CE	Supported
H6	CE mediates the relationship between SI and performance	Supported
H7	CE mediates the relationship between ESE and performance	Supported
H8	OC moderates the relationship between SI and performance	Not supported
H9	OC moderates the relationship between SI and performance	Not supported

4.9.3 Summary

The previous chapter described the systematic process of analysing the data to test hypothesis of the study using SmartPLS a second generation multivariate analysis tool. A survey methodology was used in data collection from ten higher education institutions (HEIs) in Kano. The HEIs sector is vital for economic development and prosperity of the country. Data was collected using quota sampling which is one the proportionate stratified sampling technique, this is to give equal representation to all the population of the study. The process generated a total of 243 responses representing 66% of the 370 distributed questionnaires, out of which only 62% are usable. Before the main analysis, preliminary data screening such as response rate, non-response bias, normality, missing values and assessing outliers just to mention a few were all conducted.

The chapter also provides detailed explanation on how the measurement model and structural model were evaluated. The measurement model assessed the CFA using PLS, this validation includes three major steps. The first is the individual item reliability, followed by internal consistency and lastly discriminant and convergent validity. The structural model assessed the VIF, path coefficient and the t-value of the hypothesized relationship using PLS bootstrapping. Interestingly, the statistical analysis revealed that of the 9 hypotheses of the study, 6 were supported while 3 were rejected. In addition, variance explained of all the endogenous variable and the predictive relevance were all assessed using the R^2 and Q^2 respectively.

The next chapter provides a detailed discussion on the findings, implication, limitations as well as a suggestion in terms of the direction of the future study.

CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 Introduction

The present chapter explicates the findings of the previous chapter. The discussion of the findings is in line with the initial research questions and objectives, the developed hypotheses and literature reviewed. Moreover, theoretical and practical contribution, implication, limitation and suggestion for future study were also discussed. Finally, the conclusion of the study was also presented.

5.2 Study Review

It could be recalled that the study's main objective was to investigate and establish the influence of leaders' strategic improvisation, entrepreneurial self-efficacy on performance in Nigerian HEIs. The mediating effect of corporate entrepreneurship on the relationship between strategic improvisation, entrepreneurial self-efficacy and performance is another objective. The last objective is to examine the moderating role of organizational culture on the relationship between strategic improvisation, entrepreneurial self-efficacy and performance.

From the above, four main objectives were developed in alignment with the problems statement and research questions in the previous chapters. The relationships are developed based on the reviewed literature, which is targeted at providing avenues in understanding relevant factors found to explain and enhance performance in the private sector relevance in the public and not for-profit sectors. RBV is the main pillar supporting the framework of the study, which proposed that performance can be influenced strategic orientation variables which are unique and not easy to imitate. Specifically, leaders' strategic improvisation, entrepreneurial self-efficacy integrates with corporate entrepreneurship and organizational culture improves performance. Hence, the postulation of nine (9) hypotheses which was statistically tested using SmartPLS 3, out of which 7 were found to be significant, thus, supported.

5.3 Evaluation of the main hypotheses

Findings of the study were discussed in line with previous studies and relevant literature in this section. The subheading of this section is organized in line with the research questions of the study.

5.3.1 Relationship between leaders' SI and performance

The first objective of the study is to investigate the effect of leaders' strategic improvisation on performance. Strategic improvisation is conceptualized as leaders' ability to respond to unforeseen circumstances intelligently and effectively in order to solve a problem or utilize an opportunity. It involves making a creative decision or action outside the formal organization structure. The hypothesis put forward is that strategic improvisation has a positive effect on performance. Interestingly, the finding revealed a positive and significant relationship between leaders' strategic improvisation and performance.

Although this is the first time this construct is tested in non-profit organizations, the findings still coincide with previous findings (Arshad, Julienti, Bakar, Ahmad, & Hassan, 2015; Bakar, Mahmood, & Ismail, 2015a, 2015b; Bingham, 2009; Hmieleski & Corbett, 2008; Hmieleski, Corbett, & Baron, 2013; Nemkova, Souchon, Hughes, & Milena, 2015) in the private sector. The findings vindicate the hypotheses as well as the research questions. It also provides support for the need for management in non-profit organizations such as HEIs to recognize and appreciate improvisational behaviour (risk and innovativeness) (Mohan, Voss, & Jiménez, 2016) among their employees. Moreover, the RBV supported the inclusion of strategic improvisational behaviour as one of the rear, valuable and not easy to imitate resources that can turn around the fortune of Nigerian HEIs.

In addition, the findings justified the need for leaders' to seek for alternative to strategic planning in improvisation, thus, the ability to face and manage the current environmental pressure and unprecedented fast changes (Wind & Mahajan, 1997). Consequently, not private organizations should acknowledge the effect of strategic improvisational behaviour across the institutions for performance and sustainability (Arshad, Julienti, et al., 2015).

5.3.2 Relationship between ESE and performance

Secondly, the study hypothesized that entrepreneurial self-efficacy is positively related to performance. Entrepreneurial self-efficacy is conceptualized as leaders' ability to successfully execute entrepreneurial activities for the betterment of the institution. This involves the ability to market the institution through research and quality output (students), innovative practices in teaching and learning, responsibilities and roles coordination (Management), risk taking on the process of research funding and commercialization and financial control to fully utilize their few resources. Expectedly, the result shows a negative relationship between ESE and performance. The result contradicts majority of previous findings that stated that a positive link between entrepreneurial self-efficacy and performance (see. Baum, 2001; Cassar & Friedman, 2009; Cumberland et al., 2015; Rob Hallak et al., 2015, 2011; Khedhaouria et al., 2015).

However, the findings is in line with that of Chandler and Jansen (1997) Poon et al., (2006) and Stone (1994) who reported negative and non-significant respectively. With a beta value of -0.016, the finding indicates that the more ESE display by leaders the lower the performance of these institutions. This can be linked with the assertion of Chen, Greene and Crick (1998) that relationship between ESE and performance is reciprocal that largely depends on the culture of the environment in which the entrepreneur found himself. Specifically, ESE display and impact is significantly affected by supportive environment which is lacking in most government organisations.

5.3.3 Relatiosnhip between leaders' SI and corporate entrepreneurship

The third objective is the relationship between leaders' strategic improvisation and corporate entrepreneurship (mediator). Building on the the resource base view (RBV) theory the study hypothesized that a positive relationship exists between strategeic improvisation and performance. The findings of the study confirm that strategic improvisation is positively significant to corporate entrepreneurship. This implies that, the more leaders used strategic imptovisational behavior the better opportunity to learn and create new ways of doing things and also new businesses. This gives them the ability to take more risk in order to innovate and forecast the need of their customers (Tang, Kacmar, & Busenitz, 2012); and also respond to the dynamic nature of the present environment. The finding is in line with previous findings on several terminologies of corporate entrepreneurship (Baker et al., 2001; Brown & Eisenhardt, 1997; Evers & O'Gorman, 2011; Hmieleski & Corbett, 2008; Vera & Crossan, 2005). Moreover, from the RBV leaders' managerial capital has (Dalziel, Gentry, & Bowerman, 2011; Tang, Wei, Snape, & Ng, 2015) also been linked to corporate entrepreneurship.

5.3.4 Relationship between ESE and corporate entrepreneurship

The fourth objective is the relationship between entrepreneurial self-efficacy and corporate entrepreneurship. Specifically, the hypotheses based it assumption on the social cognitive theory (SCT), even though it can also be linked with the RBV theory as a unique intangible assets of leaders in a particular organizations. The hypothesis postulates that entrepreneurial self-efficacy is positively related to corporate entrepreneurship. As expected, the result provides empirical support on the positive link between entrepreneurial self-efficacy and corporate entrepreneurship. Specifically, the finding is similar to previous findings in the private sector (Cassar & Friedman, 2009; Chen & He, 2011; Esnard-Flavius, 2010) and that of Rutherford and Holt (2007) that includes individual characteristic such as self-efficacy in the public sector. In fact, Calisto and Sarkar (2017) further vindicates this finding by establishing that sometime innovation originate from individual behaviour of the employee.

5.3.5 Mediating role of CE on the relationship between SI, ESE and performance

The main objective here is to validate if corporate entreprneurship will mediate the relatiosnhip between the strategic improvisation, entrepreneurial self-efficacy and performance. Prior the mediation test, the direct relationship between the mediator (CE) and performance was established. After which the mediating effect was evalauted using Preacher and Hayes (2008) bootstrapping approach. In esesnce three different hypotheses were validated in this section.

The first objectives is to investigate the relationship between corporate entrepreneurship and performance. Corporate entrepreneurship was operationalized as the process through which individuals in an organization organize, develop and strategize on developing a new way of doing things that will lead to the improvement or development of new business. Interestingly, the result ensures the achievement of the earlier stated objectives of the positive relationship between CE and performance. The findings confirm the position of Bakar and Mahmood (2014) that improvement in attitude and entrepreneurial behaviour of the leaders are the main characteristics needed for CE to occur and also improve performance. The finding is also in line with previous studies like (Antoncic & Hisrich, 2004; Foss, Lyngsie, & Zahra, 2013; Kaya, 2006; Kreiser & Davis, 2010; Naman & Slevin, 1993; Zahra, 1991;1993; Zahra & Covin, 1995).

In essence, organizational survival, growth and profitability largely depends on corporate entrepreneurship (Shamsuddin et al., 2012; Soleimani & Shahnazari, 2013). In other words, an organization that cannot take risk and innovate to meet the demands of today's dynamic business environment is invariably on the verge of collapsing (e.g. Nokia, Kodak). Organisations HEIs inclusive need to always read the need of their customers (students, organisations and government) and respond to them on time to remain relevant, and also contributes to economic development in which most economy now relies on.

In respect of the mediating effect, H6 was tested to vindicate the earlier postulated hypothesis that corporate entrepreneurship mediates the positive relationship between leaders' strategic improvisation and performance. Interestingly, statistical evidence confirmed that corporate entrepreneurship does mediate the relationship between leaders' SI and performance. In essence, the magnitude and significance of the result of the mediation is been affected in a positive way to justify the role of corporate entrepreneurship, hence, provided support for the hypothesis. The finding agrees with past studies such as Antoncic and Zorn

(2004) and Kearney, Hisrich and Antoncic (2012) which shows that CE mediate relationship between performance especially in a dynamic environment.

In fact, Rutherford and Holt (2007) established individual factors as antecedence of CE and also CE mediates relationship between antecedence and outcome. Hence, the conclusion that CE performance relationship is not only direct but also indirect (see Simsek & Heavey, 2011). In addition, the study provides further justification to the RBV that performance largely depends on how well individuals or organizations blend their tangible and intangible resources. Finally, the result indicates that leaders' strategic improvisational behaviour is an important ingredient needed for corporate entrepreneurship to occur and also to provide superior up to date products (courses) and services that will lead to business success and performance.

Lastly, hypothesis 7 stated that corporate entrepreneurship mediates the positive relationship between entrepreneurial self-efficacy and performance. Remarkably, the result confirms that corporate entrepreneurship does mediates the relationship between entrepreneurial self-efficacy and performance, hence, supported. This implies that with leaders with entrepreneurial self-efficacy have the better chance of igniting the desire and motivation for entrepreneurial activities (Baum, 2001; Chen, Greene, & Crick, 1998); and also the ability to effectively manage the entrepreneurial activities (Forbes, 2005). Moreover, the findings provide support to both RBV and SCT that resources (human and others) have a relationship with each other and the environment, which impact or influence one another in the process. Conclusively, HEIs should identify and appreciate leaders and non-leaders' entrepreneurial self-efficacy to help them achieve the entrepreneurial status and also improved their performance. In fact, HEIs employment should consider individual entrepreneurial characteristics as vital requirement needed to face the challenging demand associated with today's customers and environment (Blomquist, Farashah, & Thomas, 2016).

5.3.6 Moderating role of OC on the relationship between SI, ESE and performance

The final objective of the study is to establish if organizational culture moderates the positive relationship between the two exogenous (SI and ESE) variables of the study and the performance. Specifically, the objectives have two hypotheses 8 and 9.

Practically, the issue of leaders' impact on organizational performance is still open for debate from various angles. Apart from yielding contradicting results (Baum & Locke, 2004; Poon et al., 2006; Stone, 1994), the relationship has been identified not to be straightforward thing (Arshad & Hughes, 2009; Crossan, Cunha, Vera, & Cunha, 2005b). In addition, some argued that factors such as improvisation are not always good as such the need to monitor and control these factors to the benefits of the organization. Hence, the need for proper alignment and resource utilization to ensure customers (students, organisations and government) needs are satisfied, which will consequently improve performance and relevance.

Specifically, organizational culture have been identified as an influencing factor in terms of determining how people think (consciously and subconsciously), that serves as a guide in shaping the perception and behaviour of organizational members (Deshpande et al., 1993; Hansen & Wernerfelt, 1989; O'Reilly, 1989; Schein, 1990). Additionally, positive culture influences the way employee's feel which will influence their actions as well as the results because its embedded within the managerial hierarchy (Banaszak-Holl et al., 2013). In fact, organizational culture has been identified as important factors that can enhance or hinders organizational innovation success such as quality service delivery (Aguinis & Roth, 2005; Franco et al., 2002; Wilkins & Dyer, 1988; Zhu, 2015). Consequently, some organizations, promoting experimental culture and emergent learning (Moorman & Miner, 1998b) captured improvisation principles in their cultures, strategies or structures of "designed chaos" as a state of mind (Vera & Rodgriguez-Lopez, 2007).

The finding of H8, which stated that organizational culture moderates the relationship between leaders' strategic improvisation and performance, was found not to be significant. In essence, organizational culture does not moderate SI and performance relationship in this study. The finding is in line with Brewer and Clippard (2002) and Yiing and Ahmad (2009) where empirical evidences revealed that organisational culture where bureaucratic culture is the dominants usually affects innovation and performance. This finding justified the argument that failure of educational innovation is largely associated with lack of supportive organizational culture (Creemers, 2002; Stoll, 1999).

The finding is not astonishing, because management and organizational culture largely depends on each other. Hence, the need to evolve and mingle together to achieve the desired change that will lead to a more participatory and consultative management style (Bititci, Mendibil, Nudurupati, Garengo, & Turner, 2015). Specifically, management failure to provide supportive culture for HEIs leaders is one of the reasons why Nigerian HEIs is lacking in innovative and entrepreneurial behaviour. Management of organisation such as HEIs are expected to appreciate (Amabile, 1996; Dobni, 2012), recognize and reward leaders and subordinate that exhibit any successful entrepreneurial or innovative behaviour for the benefit of the institution.

Moreover, organizations' failure to achieve their targeted objectives is largely linked to their inability to appreciate the various means through which culture originates (Pool, 2000). If beliefs and practices such as strategic improvisation are recognized and appreciated they will be embedded into the company's culture, hence, become a valuable factor that can be used to implement and execute strategic change in line with the need of the environment (Finkelstein et al., 2009). Since, successful change in organisational culture requires the effort of both management and employees (Parker & Bradley, 2000). Moreover, organisations become successful only when it absorbs innovativeness in its management process (Abdullah, Wahab, & Shamsuddin, 2015; Tushman, 1997). In essence, leader's personal characteristics play a vital role in the type of policies and initiatives that occur in an organization.

The last hypothesis H9 stated that organizational culture moderates the relationship between entrepreneurial self-efficacy and performance is also not supported. However, the finding is similar to that of Brewer and Clippard (2002); Silverthorne (2004) and Yiing and Ahmad (2009) where empirical evidences revealed that organisational culture where bureaucratic culture is dominants usually affects innovation and performance. In addition, the result vindicates Bowen and Clercq (2008) and Shane (1993) submission, that organizational culture is paramount in shaping individual entrepreneurial behaviour, the possible innovation and business start-up. Since it has been established that improving informal behaviour such as ESE is very much linked with the organisational culture (Burgelman, 1983), which enable individual to generate ideas in solving problems that will provide new knowledge (Wong, 2005).

Hence, the absent of link between leaders' entrepreneurial behaviour and organisational culture is another reason why HEIs in Nigeria are in this mess. The need for management to develop a comprehensive organisational culture that will promote entrepreneurial behaviour among its staff is paramount to corporate entrepreneurship and performance. It is worth mentioning, that organisational culture is the main engine or determinant of organisational success or failure.

Specifically, HEIs are encouraged to ensure coherence of purpose among all units, provides reward and recognition, relaxation of their strict rule and innovative policies to develop a new culture that will enhance corporate entrepreneurship (Yiing & Ahmad, 2009). Finally, HEIs are advised to revisit its organisational culture in other to include entrepreneurial factors that will enhance full utilization of their few available resources, through opportunity identification that will lead corporate entrepreneurship. Soleimani and Shahnazari (2013) stated that organisational culture explains how employees think and act; hence, need to be updated to respond to the changes that occur in the environment. Hence, the poor outing of HEIs because of its strict and rigid culture which hinders innovativeness and predictability in its activities (Jassawalla & Sashittal, 2003).

5.4 Contribution of the study

The overall objective of the study is to test the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance. Moreover, the indirect effect of corporate entrepreneurship and organizational culture was empirically validated. After discussing the findings in the previous section, the study's implication or contribution is next.

The concern from government, stakeholders and academic research are turning their attention to HEIs performance. However, the concern is not only on performance but also the call to embrace entrepreneurial attitude just like their counterpart in the private sector. The findings of the study will have no doubt been of great concern and relief to HEIs in ensuring the revamping of these institutions. Specifically, the study provides significant contribution to literature, and theory development and testing. It also, provides methodological contribution and also provides managerial contribution to management, regulatory bodies (NUC, NBTE) as well as to stakeholder. Consequently, these implications were fully digested in the following sub-section.

5.4.1 Theoretical contribution

The study contributes to knowledge by testing new conceptual framework derived from previous studies and theoretical gaps identified in the literature. The framework derived it support from two major theories resource based view (RBV) and social cognitive theories (SCT) (Bandura, 1986; Barney, 1991). The new model is aimed at providing new convincing justification and explanation on factors that are capable of improving leaders' performance which in turn affect HEIs performance. Moreover, theory generalization can only be achieved if it has been tested and validated in different settings and context. Interestingly, the present study is seen as one of the few that used both RBV and SCT in explaining leaders' performance possible factors in Nigerian HEIs.

The study provides empirical justification on claims that factors such as leaders' SI and ESE responsible for private sector success can also be applied in the public domain, especially HEIs. The choice of the HEIs is a wakeup call to address the scant attention the sector has received despite its pivotal role for the success of other popular context such as banking, manufacturing and SMEs. Hence, the study demonstrates the importance of SI and ESE in HEIs. In particular, the study highlighted that leaders' specific qualities should be identified, acknowledged, appreciated and encouraged towards organization success.

Also, the study provides further justification that corporate entrepreneurship does not only occur within the top management. A great number of studies (Barringer & Bluedorn, 1999; Hambrick & Mason, 1984; Hornsby, Kuratko, Shepherd, &

Bott, 2009) justified that corporate entrepreneurship occurs mainly from the effect of the top management, because they are in possession of all the facilities needed to encourage and promote it. The study is one of the few (see. Ireland, Covin, & Kuratko, 2009), that provides empirical justification on the effect of middle line managers role towards developing corporate entrepreneurship, which is usually through the informal and improvisational behaviour or approach.

Another contribution is that studies involving both SI and ESE have always been inconsistent, hence, reporting conflicting or mixed findings. These conflicting findings have been attributed to several factors such as convenience sample, operationalization and not to mention the fact that majority of the study only conduct direct relationship. In view of these, the present study incorporates organizational culture as moderating variable because of the following reasons. First, organizational culture influences performance and employee's commitment (Lok & Crawford, 2001). Secondly, organizational culture as an important variable in explaining the way and manner in which things occur in an organization, in fact organizational culture is the organizations personality (Sims, 2000). Hence, a key determining factor in commitment and turn over intention of the employees (Kim & Hyun, 2009). Lastly, other studies (Hamzah, Othman, Hashim, Rashid, & Besir, 2013; Kim & Hyun, 2009; Yiing & Ahmad, 2009) have utilized organizational culture as a moderating variable.

Another contribution of the study is that it incorporates corporate entrepreneurship as mediating variable. Corporate entrepreneurship was used because this is what public organizations in general and the HEIs are in dear need of. The serious pressure facing HEIs is becoming order of the day, as such the need to ensure increase performance and also full utilization of the limited resources at their disposal. Hence, corporate entrepreneurship is identified as one of the key factors capable of addressing the increase pressure HEIs are facing. Furthermore, globalization effect has made environment very dynamic and hostile, while at the same time HEIs sustainability is seriously threatened. In order to avoid any contingent scenario HEIs need to understand and also practice corporate entrepreneurship, since it has been acknowledged as the best practice needed in dynamic and heterogeneous environment (Nielsen, Peters, & Hisrich, 1985; Zahra, 1991).

Furthermore, the study contributes by exploring the effect of internal management practices such as SI and ESE. According to Tang et al. (2015), the relationship between internal management practices and performance has received less attention, while studies also place more concern on effect of corporate entrepreneurship and not mechanism through which it occurs. Hence, the finding of this study responds by providing empirical justification of the role of internal management (SI and ESE) to their performance and also toward corporate entrepreneurship. Leaders with strategic improvisational behaviour and entrepreneurial self-efficacy are eager to explore and innovate using organizational resources (Chen, Chang, & Chang, 2015). In essence, the study has provided an insight on strategic entrepreneurship especially in the context of HEIs. Hence, highlighting the role of innovative and commercial practices such as

SI and ESE mainly used in the private sector, in HEIs which have been seriously under research.

5.4.2 Methodological contribution

Apart from the theoretical justification mentioned above, the study also made some methodological contributions to knowledge. Specifically, the present study made the following methodological contribution.

First, the study answers the call of Davidsson and Wiklund (2001), that understanding organizational performance looking at either the organizational factors or individual is not enough. Their argument lies on the fact the entrepreneurial activities are exhibited by individual (Schumpeter, 1934), while the actual initiatives take place in the organizational context (Moran & Ghoshal, 1999; Shane & Venkataraman, 2000). Hence, the present study was conducted using both individual characteristics and also perceived organizational characteristics (OC) to fully capture the actual factors needed for leader performance and consequently that of HEIs and also how they interrelated with one another.

In addition, the study also moves away from the traditional method of understanding corporate entrepreneurship by re-focusing on the individual level. Majority of the studies aligned or focused on the organizational level of analysis when discussing on factors affecting corporate entrepreneurship. However, several submissions have been made on the fact that corporate entrepreneurship is the responsibility of all members (managerial and non-managerial) (Corbett et al., 2013). Moreover, the key competitive advantage a company will have in today's dynamic environment lies in the human capital, who are responsible for evoking and sustaining organizational competitive advantage (Ireland et al., 2009).

Secondly, the measurement of the study adapted from various sources, mostly outside public or HEIs context. In particular, the strategic improvisation (SI) measurement to the best of the knowledge of the researcher was never validated within the HEIs. Consequently, further verification of the measurement was carried out to re-establish their validity and reliability within the HEIs context. The measurements have all met the threshold value for Cronbach's alpha, convergent and discriminant validity and also composite validity. Hence, the conclusion that methodological contribution was made.

Thirdly, most of the previous studies conducted used either SPSS or SEM AMOS to conduct their analysis (Al-Swidi, 2012; Shehu, 2014). This study utilized a relatively new statistical analysis package (i.e. PLS-SEM) to conduct its analysis, to empirically explain the relationship between the constructs in the model. PLS-SEM is a second generation tool that comprises principal component techniques, canonical correlation, multiple regressions, and multivariate analysis of variance among others. Hence, the use of the relatively new tool (PLS-SEM) for analysis has contributed methodologically, which will also serve as a guide to future researchers.

Finally, the need for further validation and application of theories mostly developed and tested in European and Asian continent in other contexts cannot be overemphasized. Hence, the need for new research that can provide empirical support in new context (Tsui, 2006), since most of the places were these theories originated have different culture. In view of this the study provides contextual contribution by testing such theories in African and Nigerian context were the culture is totally different with that of the Europe.

5.4.3 Managerial contribution

The leaders performance and also performance of HEIs is now seriously questioned which negatively affect almost all sectors of the economy. Moreover, the new economic system lies in knowledge economy which is as a result of globalization and the dynamic nature of today's environment. The findings of the study have contributed a lot to managerial practices and capabilities needed in HEIs in Nigeria. Moreover, bodies like NUC, NBTE can utilized the findings to make policies in revitalizing our HEIs. Deducing from the findings of the study, the following specific managerial contribution were made.

Firstly, the findings confirm that leaders' strategic improvisational behaviour was found to have positive effect on performance. Hence, it is time for HEIs in Nigeria to appreciate, inculcate and also encourage such behaviours in order to yield the desired objectives of these institutions. Practices like rewarding staff that delivered their targets or solve problems while exhibiting such behaviour is needed to encourage such behaviour. Moreover, seminars and workshops should be organized were these leaders' will show case the improvisational ability and also when it should be used. This process will yield to what is referred to as organizational improvisation.

Secondly, despite entrepreneurial self-efficacy shares similar characteristics with strategic improvisation. The result indicates that entrepreneurial self-efficacy does not affect performance directly. This vindicates Lateef Kuye and Oghojafor, (2011) and Nkamnebe (2009) submissions that HEIs institute management lack the basic innovative and risk taking ability to confront the issues facing them. Moreover, organisations and individuals questioning the entrepreneurial abilities and skills of graduates produced by these institutions have also been vindicated. It is clear that most of the staff lack the basic entrepreneurial skills, not to mention the approach and the know-how requirement to inculcate the skills to their students. Hence, the need for management to focus by encouraging networking ability among its staffs in order to acquire the necessary skills to impact their entrepreneurial self-efficacy and the institution performance. Since, the ability to increase entrepreneurial self-efficacy skills has been linked with networking skills and ability available at the disposal of the individual. Furthermore, HEIs should initiate a means where work/academic discussion can occur between them, labour market and even the society. This collaboration will provide an avenue where the need of the society and the labour market will be discussed and analysed. Hence, the right curriculum can be developed by the right people and in line with the need of the environment.

In addition, organizations with high number of staff or leaders with entrepreneurial self-efficacy have the possibility of producing better curriculum for our graduates. Hence, the likely hood of addressing the problem of unskilled labour the institutions have been accused of. Teachers should engage students more in order to increase their entrepreneurial self-efficacy. Teachers perform or display this task as well as discuss their achievement to motivate them. Also, leaders' and followers can also engage in similar process to help each other, since it has been suggested that training increase individual ESE which consequently improve performance (Hallak et al., 2011). This is in line with Bandura's (1982) assumption that role models are one of the ways through which self-efficacy is developed. Furthermore, in-class discussion of case studies relating to the success stories of various entrepreneurs both local and global would provide further insight and inspiration to both staff and students.

Thirdly, the study also contributes by justifying the assertion of Phan et al. (2009), providing empirical evidences on the effect of corporate entrepreneurship to be recognized by government and HEIs as they pursue to review and restructure their institution to enhance their performance and sustainability. They argued that, with the effect of economic crisis and the increase in expectation facing public sectors, engaging in entrepreneurial activities is vital. This will provide a guide through which programs and policies are developed for the purpose of securing and sustaining the future of the organization (Phan et al., 2009). This can be done by understanding the variables, then providing enabling and conducive environment for successful operations. In the long run, these activities if well maintained will provide a different HEIs in terms of their function, funding, response to the dynamic changes and also how their association with private sector.

In addition, HEIs management should encourage mobility between academia and industry as it will provide an avenue where the actual need of the business environment can be understood. Moreover, it is an opportunity where academicians can gain experience that will be useful to the institutions and their students. This process will encourage commercialization, since individual are likely to explore opportunities when they know the problems industries are facing (Bourelos, Magnusson, & Mckelvey, 2012). Moreover, relating with the industry prepares HEIs to the changes that occur to the environment.

Finally, public sector and HEIs in particular should clearly appreciate the role organisational culture as a vital requirement for productivity and innovation and consequently performance of the institutions. Organisational culture is the only means through which employees address numerous problems facing organisation, through adaptation and coordination among colleagues in the organisation.

5.5 Limitation of the study and recommendations for future research

The study provides valuable contribution. It provides thorough and systematic propositions especially on the role of middle line managers in developing corporate entrepreneurship and performance in HEIs. However, the study still has some limitations which need to be discussed, analysed to offer suggestion for future studies. The following limitations were observed in the present study.

Firstly, HEIs structure involves not only middle line managers or top line managers but also individuals; as such looking at the effect of only middle line managers is one of the limitations of the study. Hence, future study should look into the individual effect of staff (who does not occupy any leadership position) toward corporate entrepreneurship and performance. Moreover, a combine study where both managers and non-manager's effects towards corporate entrepreneurship and performance will further vindicate the findings of this study. In essence, a more complex approach that includes individuals, management and organisational characteristics and structure is highly recommended. These will provide a guide for selecting individuals to leadership position or any related assignment that have the possibility of leading department, centres and unit to success (Cumberland et al., 2015). It will also respond to the debate about the hierarchical level at which the strategic and entrepreneurial behaviour of managers is most beneficial.

Secondly, the study fails to recognize the peculiarities associated with each faculty and department. It is good to note that HEIs staff (leaders inclusive) role and entrepreneurial ability differs, as such future study should recognize and appreciate these differences. Leaders from entrepreneurial centres, business and accounting departments, business schools as well as consultancy centres are more likely to engage in entrepreneurial activities that will enhance their performance and also promote corporate entrepreneurship than their counter parts in other departments and faculties. Hence, future study should focus on these categories to establish their role and impact on both CE and performance on one hand, and also their impacts on their student on the other hand. This will provide a clear picture of those individuals, leaders and centres that are adamant to accept change and engage in entrepreneurial activities.

Thirdly, as earlier identified during data cleaning one of the problems that is likely to affect the result is common method variance (CMV). However, the study established that CMV was not a problem in the present study using correlation which is one of the statistical method as submitted by Podsakoff (1986). Nevertheless, future study should collect its data using multiple participants (individuals, leaders and organization) to further minimize the effect of measurement error.

Fourthly, quantitative approached is one of the process used in social science research, it provides data usually using one single method i.e. questionnaire. Despite the numerous advantage of the present method used in this study, the issue of willingness to respond to all the question correctly is still an issue. Hence, the need for future study to use triangulation method (mix of qualitative and quantitative) to further investigates these variables. Moreover, the said variables were new to the public sector, specifically the HEIs. Hence, the mixed method will give the room for an in-depth interview that will clear all the possible doubt for the respondents and the researcher.

Fifthly, using cross-sectional data instead of longitudinal method or approach is another limitation. Longitudinal method has the ability to monitor any behavioural changes that may occur in that particular period. These changes are as a result of change in policy, leadership or even economic conditions. In addition, the behaviour of new leader and even staff in an organization is likely to change over time, which is very difficult to measure using cross sectional data. Specifically, the inclusion of control variables such as age, size and even specialty of the institution can be included to give more clearer plausible interpretation of the findings (Baum & Locke, 2004).

Sixthly, the data of the study was generated from HEIs in Kano state, which is the state with the highest population in Nigeria (National Population Commission, 2006). The exclusion of other states reduces the generalization of the findings to entire sector and in extension to other public sector. Hence, future studies should include other states HEIs in general or by representation to compare and validate this finding. Also, other public sector should be studied in the future, since, entrepreneurship effects to performance varies according to industries (Baum & Locke, 2004).

Finally, framework of the study is new to HEIs and public sector, evident from the R^2 recorded of 70% and 22% for performance and corporate entrepreneurship respectively. Hence, future study should look into other possible factors that will facilitate corporate entrepreneurship and also enhance performance of these institutions.

5.6 Conclusion

The contribution of the study to literature and performance is vital, evidently from the empirical evidence it has provided. Specifically, leaders' characteristics impact on performance is a plus to the institution and regulatory bodies. The mediating role of corporate entrepreneurship and moderating role of organizational culture on the relationship between leaders' SI, ESE and performance in Nigerian HEIs were fully examined accordingly. Moreover, the findings also provide theoretical support to the underpinning theories of the study (SCT and RBV) on the relationship between the variables of the study. The study was able to achieve six out of nine main objectives stated in chapter one, this necessitates the rejection of the three main objectives not achieved.

From the findings, leaders' strategic improvisation was found to be positively related to performance, while entrepreneurial self-efficacy does not directly affects performance. However, strategic improvisation and entrepreneurial self-efficacy were significant to corporate entrepreneurship. In the same vein, corporate entrepreneurship is positively associated with performance. Corporate entrepreneurship was also found to mediate the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance. Furthermore, organizational culture was found not to moderate the relationship between leaders' strategic improvisation, entrepreneurial self-efficacy and performance.

Consequently, the theoretical gap in leaders' strategic improvisation, entrepreneurial self-efficacy and performance relationship was filled, hence, explaining the nature through which it can be achieved as well as the direction of the relationship. The study also provided theoretical and empirical support using leaders' SI and ESE as determinant of performance. In addition, the integration of two prominent theories RBV and SCT in relation to each construct in the study. The use of SmartPLS in this complex model also provides another methodological contribution to the literature.

Finally, the findings also provide practical implication to HEIs, NUC and NBTE. In addition, suggestion for future studies was also discussed. Conclusively, the study provides theoretical, practical and methodological contribution.

5.7 References

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