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INCREASING INNOVATION CAPITAL ON TECHNOLOGY: SME's IN NIGERIA.

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ABSTRACT
The studies on innovation capital in small and medium enterprises (SMEs) have experienced a tremendous growth over the last several years. However, there is no comprehensive review on this field of technology research. The objective of this study is to examine current research study on innovation capital of SMEs in Nigeria to integrate findings and to point out future research study. Based on the previous literatures, findings suggest that studies are mostly performed based on process, product, market and organizational innovation but less on technology innovation. Studies are mostly conducted in the European countries along with some studies in China and Korea while studies in the Nigerian context are scanty. Innovation capital improves the overall innovation performance of SMEs. However, relevant theories and models for managers are well-established in the literature.

Keywords: *Innovation Capital; SMEs; Technology; Nigeria.*

Introduction
With the advance of the innovative era in the globalized economy, modern technology and knowledge-based innovation improve the performance development and competitiveness of small and medium enterprises (SMEs). SMEs desideratum is to acquire, monitor and manage innovation capital. Marr, Schiuma, and Neely (2014) stated that organizations perform well and create value when they implement strategies that respond to market opportunities by exploiting their internal resources and capabilities. Small and Medium Enterprises, (SMES) are very critical to the development of any economy around the world. The significant role of SMEs to the development of any nation

is even more evident when the economies of developing nations are considered. The SMEs have played very vital roles in the development of many countries ranging from US, UK, European countries, Asian down to Africa Countries (Tanzer, 2015). SMEs are responsible for driving innovation and competition in many economies. In India, the SMEs account for about 39% of manufacturing output and 33% of total exports. SMEs possess great potential for employment generation, improvement of local technology, output diversification, development of indigenous entrepreneurship and forward integration with large scale industries (CBN, 2014). However, evidence has shown that SMEs in Nigeria have underperformed and have not made significant contribution to the economic growth and development of the nation. SME's being very important part of the Nigerian economy as study by the IFC show that approximately 96% of Nigerian businesses are SMEs (Gbandi, & Amissah, 2014; Oyelarin-Oyeyinka, 2010). The SMEs represent about 90% of manufacturing/industrial sector in terms of number of enterprises in Nigeria.

However, in spite of the fact that the SMEs constitute more than 90% of Nigerian businesses, their contribution to GDP is only about 1%. The major problems affecting the SMEs in Nigeria are: lack of access to modern technology, unfriendly business environment, poor funding, and low managerial skills (Gbandi, & Amissah, 2014; FSS 2020(2007), SME sector Report, (2007).

Lack of access to modern technology and low managerial skills can be checked if the SMEs are properly funded. Financing of SMEs in Nigeria is therefore very critical if they are to perform the growth and developmental role in the nation's economy. Proper financing of SMEs in Nigeria is an essential tool for promoting and leveraging small and medium enterprises development in Nigeria. Several strategies put in place have targeted both financial and non-financial institutions. Some of these financial institutions include the CBN, commercial banks, microfinance banks, international development agencies such as African development bank. This paper focuses on increasing innovation capital on technology of SMEs in Nigeria. It discusses the constraints for financing SMEs and innovations designed to overcome these constraints.

The objectives of this study are to examine the relationship innovation capital via technology on SME's performance in Nigeria. The specific objectives are:

Literature Review

SME Performance in Nigeria

SMEs serve as mechanism for the attainment of national economic objectives such as employment generation, enhancement of indigenous technology and poverty reduction at low investment cost; they contribute significantly to the development of entrepreneurial capabilities. Other benefits related to them include stimulation of economic activities such as supplies of various items and marketing them, enhancement of standard of living for employees of SMEs and their dependents as well as those who are directly or indirectly associated with them (Basil, 2005). Several studies agreed that SMEs are the cornerstone for economic growth and social development. Wahab and Ijayi, (2006) stated that SMEs have improved the living standard of the rural dwellers through job creation, utilization of local technology, and generation of revenue to both private individuals and government. Indeed, SMEs have the propensity to employ more labour intensive production process than larger enterprises. In Nigeria, SMEs have compelling growth potential and like other emerging economies are likely to constitute a significant portion of GDP in the near future (Oyelaran-Oyeyinka, 2007). Despite the fact that there is scantly of literature that studies the innovation capital on technology of SME's, this paper will dual on the significant relationship between innovation capital and SME's performance.

Innovation and SMEs Performance

Innovation is a complex phenomenon that involves the production, diffusion and translation of knowledge in new or modified products or services, or the development of new production or processing techniques (Bakar & Zainol, 2015; Bigliardi, 2013). It reflects a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes (Lumpkin and Dess 1996). Innovation is an important component of a firm's strategy mainly because it constitutes one of the major means through which it can seek new business opportunities (Bakar & Zainol, 2015; Bigliardi, 2013).

Today more than ever, a firm's construction of sustainable competitive advantage crucially depends on its capacity to innovate (Marques and Ferreira, 2009). Innovation is considered by many researchers and captain of industries

to be critical for firms to compete efficiently in both domestic and global markets (Hitt, 2001). Indeed it facilitates the development of new organizational routines and the discovery of unique approaches to technologies, products, or processes and enables SMEs to adapt to changing market conditions through the introduction of new and refined products (Ireland et al 2009; McGrath, 2001). Innovation has become a prime source for gaining a competitive edge in the market for all companies (Bigliardi, 2013). Various studies have examined the relationship between innovation and organizational performance. According to Bigliardi, (2013) found that the increase in the innovation level increased financial performance. Koellinger, (2008) found that innovative activity is not necessarily associated with higher profitability. While Egbetokun, *et al.* (2008) found that incremental innovation is positively related to SME's performance. Wijetunge and Pushpakumari (2013) found that among the dimensions of EO, innovativeness shows high influence on business performance. Therefore based on the literature there is positive and significant relationship between innovation and SMEs performance in Nigeria.

Technological Innovation and SME's Performance

Technology sophistication in terms of innovation can give SMEs a better opportunity to compete in the markets and soon this will be a competitive necessity for survival in all organizations. At the moment lack of Nigerian government policies that support technology adoption and integration in SMEs appear to be under performing and less competitive due to electricity and financial constraints among others (Adenikinju, 2005; Musawa & Wahab, 2012). Folorunso, Olusegun, Gabriel, Awe, Sharma, Sushil, and Zhang, (2006) acknowledged human capital (education), cost of implementation of the technology and the rest. Kuteyi (2009) as cited in Musawa and Wahab (2012) identified lack of funding and non-utilization of Technology as one of the major policy factor that affect the developments of Nigerian SMEs. Ovia (2000) have categorized internal and external barriers that impede adoption of technology by SMEs in a developing country. The internal barriers include entrepreneur characteristics, firm characteristics, cost and return on investment, and external barriers include: infrastructure, social, cultural, political, legal and regulatory.

It has long been established that modern economies depend more, for their development and growth on the technology possessed by their managers than

on the quantum of natural resources available to a nation. Shortage of resources, along with the lack of non-core expertise, is a key threat for innovative SMEs. SMEs do not deficient only in physical assets, but also management transparency resources that financial institutions can use as collateral (Brant & Lohse, 2013). In addition, SMEs may confront a host of other internal and external constraints, like lack of scale, competition and market entry problems, inadequate infrastructure, and lack of distribution channels and marketing expertise. It has been proposed that the international aid Scheme for SMEs be revamped to focus to a larger extent on the provision of training for individual SME owners, in addition to enhancing 'investment climate refine' that promote the overall environment for executing business (Page & Soderbom, 2012).

Designed training can help innovative SMEs managers to address internal constraints and lure partners and investors, through innovation capital management. Likewise, training assists to glean more value from the firms' innovation and collaborations. Modern technologies drive all aspects of innovative economic activities, for optimum efficiency and greater productivity, so is human capital a critical driver of all strong national economic organizations. SMEs that invent are much nearer to source of technological ken, like the universities or research centers (Vaona & Pianta, 2008). Therefore, they lean to perform particularly well when innovation depends on being resolute to science (Revilla 2012). Costello and Sloane (2003) said that SMEs hindered in adopting technologies because of the barriers that arises in the organizations. Iacovou *et al.* (1995) stated that lack of awareness among owner-managers, lack of skills and training, cultural element, lack of government policies that support IT adoption and integration in SMEs (Adenikinju, 2005).

The state of infrastructures, poses a major hindrance to the use of Technology innovation in Nigeria (Musawa & Wahab, 2012). Other factors Olatokun and Kebonye (2010) such as the size of the enterprise and the type of business enterprise could also affect. In distinction, bigger firms are more secure and able to spread the cost of innovation and process capital over a larger scale and varied sales base. New innovators often experience financial stress at inception, especially in establishments with venture capital (VC) system deficient, as they resort regularly to the more costly debt markets. Information asymmetries between entrepreneurs and investors, which ensued in the latter, or inability to appropriately assess innovative projects, deepen these problems (Brant &

Lohse, 2013). Large firm, often bear the resources, experience, and skills needed to effectively market new offerings, which yield them an edge where knowledge is accruing (Revilla & Fernández, 2012). Ultimately, the impact of litigation is less threatened, the budgetary value experience can deliver a devastating impact on SMEs (Friesike, Gassmann & Krogh, 2012). While smaller firms may be more dexterous and rely upon the environments; more innovative, bigger firms revel in resource advantage. Hashim and Wafa, (2002), Wang and Wu, (2011) and Muhammad *et al.* (2010) argued that the primary problems faced by SMEs are the lack of technology knowledge regarding marketing techniques, branding, customer dedication and also lack of good contacts with others locally and international initiatives. Alam *et al.* (2011) observed that SMEs in Nigeria have social barriers that are main obstacles to achieve a competitive advantage and consequently many SMEs in Nigeria lose out in terms of opportunities.

Theoretical Review

Technology Acceptance Model (TAM)

Technology Acceptance Model is the first adoption theory in the field of technology (Awa, Eze, Urieto, & Inyang, 2011; Benbasat & Barki, 2007; Silva, 2007). It provides basis for unveiling the impacts of external variables on adoption decisions with its basic postulates resting firmly on economic, utilitarian, and attitudinal grounds. TAM proposes perceived usefulness (PU) and perceived ease of use (PEOU) as the fundamental determinants of technology adoption. An individual's intention to use an application is explained and predicted by his perception of the technology's usefulness and its simplicity. The proponents of TAM posit that perceived usefulness is influenced by perceived ease of use and both predict attitudes (Davis, 1993). Although TAM has received empirical validation, application, and replication (Gounaris & Koritos, 2008), the model provides less meaningful information on user's opinions about adopting specific systems by narrowing its constructs. Hence, the need to expand the factors or integrate with other technology acceptance models to improve TAM's explanatory and predictive utilities. The strengths of Roger's (1995) diffusion of innovation and Ajzen's (1991) theory of planned behavior (TPB) have been explored to enrich TAM by adding usage and placing premiums on specific settings and external variables that influence a

technology's adoption process. TAM and TPB are routed to the theory of reasoned action (TRA) Though TAM and TPB neglected the influences of psychological, social, and interpersonal variables on technology adoption decision (Ukoha, Awa, Nwuche, & Asiegbu, 2011), TPB complemented TAM's constructs with subjective norms and perceived behavioural control to explain perceptions of ease or difficulty of performing an act given resource constraints. Other researchers (e.g. Venkatesh & Davis, 2000) validated, modified, extended, and improved TAM under different situations to make for wider applicability in the novel knowledge economy of SME.

Technology Organization Environment (TOE)

Technology Organization Environment Theory (TOE) framework of Tornatzky and Fleischer (1990) assumes a generic set of factors to predict the likelihood of EC adoption. The theory suggests that adoption is influenced by technology development (Kauffman &Walden, 2001), organizational conditions, business and organizational reconfiguration (Chatterjee, Grewal, & Sambamurthy, 2002), and industry environment (Kewtha and Choon, 2001). Technological context describes that adoption depends on the pool of technologies inside and outside the firm as well as the application's perceived relative advantage (gains), compatibility, complexity, trial ability, and observability. Organizational context captures firm's business scope, top management support, organizational culture, complexity of managerial structure measured in terms of centralization, formalization, and vertical differentiation, the quality of human resource, and size and size related issues such as internal slack resources and specialization (Jeyaraj, Rottman, & Lacity, 2006; Sabherwal, Jeyaraj, & Chowa, 2006; Tornatzky & Fleischer, 1990).

Methodology

This is an exploratory research based solely on insights drawn from the analysis of the existing literature of different studies, articles, conclusions, books related to the topic of study. This research work will serve as a means to help acquire useful information or knowledge about the subject area. The purpose of this research is not to collect or generate more data, but to interpret and combine what is already there and make some sense out of it. The insights gotten from the existing literature is to address the phenomenon under study.

Findings

Marr, Schiuma, and Neely (2014) stated that organizations perform well and create value when they implement strategies that respond to market opportunities by exploiting their internal resources and capabilities. SMEs serve as a mechanism for the attainment of national objectives such s employment generation, poverty reduction, enhancement of standard of living for employees of SME.

Innovation facilitates the development of new organizational routines and the discovery of unique approaches to technologies, products, or processes and enables SMEs to adapt to changing market conditions through the introduction of new and refined products.

Shortage of resources, along with the lack of non-core expertise, is a key threat for innovative SMEs. Modern technologies drive all aspects of innovative economic activities, for optimum efficiency and greater productivity

Conclusion and Recommendations

From the paper, it can be deduced that innovational capital via technology viewed has the unguent of any system to evolve into SME's performance in a technology based economy. On that point is no dubiety that the relevance to SMEs performance for economic progress is highly acknowledged in Nigeria without uncertainty. Empirical evidences of SMEs performance, not provided for this study, but it will add in inclusion of literature review and knowledge concerning SMEs performance in Nigeria. However, it is implied that in a technology economy, the innovation capital appears as most crucial influence for the accomplishment of any organization.

Contribution to knowledge

This paper considered increasing innovation capital on technology using existing literatures. This research work gave insights into challenges of SMEs and the effect on the economy as a whole. The major contribution was the emphasis on technology that is the essence of innovation in area of technology

Suggestions for further studies

The future focus should be on empirical studies in this field. Summary of this paper was to provide the overview of challenges of SMEs in Nigeria. There should also be more findings on technology and its effects on Nigeria as a whole.

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