

KNOWLEDGE MANAGEMENT AND ENTREPRENEURIAL INNOVATIVENESS OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN RIVERS STATE, NIGERIA

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Abstract

The study fundamentally and empirically examined the relationship between knowledge management and entrepreneurial innovativeness of small and medium enterprises in Rivers State, Nigeria, as the saying goes that “knowledge is power”, and the need to explore the management that will enhance entrepreneurial innovativeness cannot be over emphasized. The specific objectives include the examination of the impact of critical and creative thinking as dimensions of knowledge management, on entrepreneurial innovativeness. Cross sectional research design was adopted. Likert 5-point code measure was used in the questionnaire design. Ten industries registered with the Rivers State Ministry of Trade and Commerce were statistically selected in the survey, and 112 statistically selected respondents holding strategic positions participated. Pearson’s correlations statistic at 0.05 level of significance was used to test the posited hypotheses, with the aid of Statistical Package for Social Science. Findings revealed that strong positive and statistical significant relationship exist ($p < 0.05$) between the predictor and criterion variables. The study concludes that every production process and entrepreneurial innovativeness depend on effective knowledge management via critical and creative thinking. We further conclude that entrepreneurial innovativeness is strategically rooted through critical and creative thinking that enhance entrepreneurial cognitive development and eventual innovativeness and innovation. Greater emphasis should be given to knowledge management via critical and creative thinking in order to achieve entrepreneurial innovativeness and ultimate innovation, as recommended amongst others.

Key Words: Knowledge Management; Entrepreneurial Innovativeness; Small and Medium Enterprises; Critical and Creative Thinking; Rivers State

Introduction

Knowledge generally can be described as a body of information, which might consist of facts, opinions, ideas, theories, principles, models and other frameworks. Knowledge can also be referred to as a person’s state of being with respect to some body of information, which might include ignorance, awareness, familiarity, understanding, facility, and skills acquired through experience or educational perception (Sharma, 2008). Relatedly,

knowledge management is the process of applying a systematic approach to capture, structuring, managing, learning, and disseminating of knowledge throughout an organization to work faster, enhance, reuse best practices, and reduce costly rework from project to project (Nonaka and Takeuchi, 1995).

Certainly, effective knowledge management is indeed of a strategic concern in the development of entrepreneurial

innovativeness of small and medium enterprises (SMEs) in Nigeria today. In view of this, the need for the study of entrepreneurial innovativeness comes to fore, in order to achieve competitiveness and profitability, which have become the norms that go with innovativeness and organizational sustainability. As opined by Ozuru and Chikwe (2017), small and medium enterprises have been arguably observed as the strategic engine of every economy, and there has been no appreciable improvement of entrepreneurial innovativeness in SMEs in Nigeria due to poor or ineffective knowledge management culture of SMEs, where owners show no appreciable response to adapt to changes in the business environment.

In recent time, it has also been observed that the level of competition among small and medium enterprises has become intense to the extent that each is noted scrambling for share of the market (Kalu and Onuoha, 2019). Related earlier observation of such scenario has made many to close down as a result of turbulent business environment (Chikwe and Biriowu, 2018). However, given the position of SMEs as strategic engine in any economy, Nigeria and Rivers State in particular, there is therefore the urgent need to examine the extent of the impact of knowledge management on entrepreneurial innovativeness in SMEs in Nigeria and Rivers State in specific, to fill the knowledge gap.

In addition, the dearth of empirical literature on the influence of knowledge management on entrepreneurial innovativeness in SMEs in the study area, or their relationship has also necessitated the strategic need for the present study, and this will also help to fill the knowledge gap. At this juncture, it is important to remind us of the general saying that, "knowledge is power", and the need to explore its

management that will enhance entrepreneurial innovativeness in the study area cannot be overestimated. This should be so, since it has been similarly noted that innovation sustains SMEs which are the engine of economic growth and poverty reduction in the world (Katua, 2014; Chikwe and Biriowu, 2019; and Kalu and Onuoha, 2019). In addition, SMEs have been noted to have the power to create jobs in both developed and developing countries (Namusonge, 2014; Abor and Quartey, 2016; Okereke, Chikwe and Oparanma, 2018; Kalu and Onuoha, 2019). Small and medium enterprises have also been remarked to contribute to economic growth and development by expanding the tax base and driver of innovations.

As relatedly argued by Cho and Korle (2014), and Tubigi and Alshawi (2015), the growing important role of knowledge management in increasing innovations has motivated businesses to move on from other management practices to embrace knowledge management. In Nigeria, for instance, many SMEs have packed up, staggered, collapsed and relocated, as a result of lack of managerial knowledge relating to unfavourable conditions of business environment (Ogunro, 2014). In practical terms, organizations having good knowledge of business environment can innovate and obtain competitive advantages through several ways, including entering new markets and developing new business models (Markides, 1997), or making strategic innovations. As opined by Ringin and Dantsoho (2017), innovation is thought to provide organizations with a means of creating a sustainable competitive advantage relevant to current business reality. Epistemologically, and philosophically, no knowledge can be acquired stored, shared, created,

transferred, created and utilized, to mention but a few, without critical and creative thinking that can usher in innovativeness in any organization. Critical thinking and creative thinking are therefore adopted as strategic dimensions of knowledge management in the present study. This therefore marks as point of departure from the previous related studies in the study area.

It has also been noted that practices relating to effective knowledge management in firms are some of the major topics of interest in business, politics and academic environment (Lopez-Nicolas and Merono-Cerdan, 2011). This noted interest is strategic and has been assessed as the most important differentiation strategy for acquisition of competitive advantage in the marketplace (Chikwe, N.D.). In the view of Kalay and Lynn (2014), in a highly competitive environment, entrepreneurial innovativeness is the essential key to a firm tending to obtain a dominant position and gaining of high profits.

Consequent upon the foregoing, the effective examination and understanding of knowledge management is critical and strategic to enhancement of entrepreneurial innovativeness in small and medium enterprises in Nigeria and Rivers State in specific. This is in brief, the key focus of this study, and strategic knowledge gap, which this study in all ramifications has come to fill.

Aim and Objectives of The Study

The general aim of the study is to empirically examine the extent to which knowledge management with its chosen critical thinking and creative thinking dimensions predict on

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or relate to entrepreneurial innovativeness of small and medium enterprises (SMEs) in Nigeria, with special reference to Rivers State, Nigeria. In specific, the objectives of the study include:

- To examine if significant relationship exists between knowledge management and entrepreneurial innovativeness of SMEs in Nigeria, Rivers State.
- To examine the extent to which critical thinking relates to entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.
- To examine the extent to which creative thinking relates to entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Research Questions

Usually, to achieve clarity in a research study of this nature, the general aim and associated specific objectives of the study are broken down into specific research questions. The essence of such approach is to find out if solutions can be proffered. In the light of this understanding, the study will provide answers to the following research questions:

- To what extent does knowledge management relate to entrepreneurial innovativeness of SMEs in Rivers State, Nigeria?
- To what extent does critical thinking relate to entrepreneurial innovativeness of SMEs in Rivers State, Nigeria?
- To what extent does creative thinking relate to entrepreneurial innovativeness of SMEs in Rivers State, Nigeria?

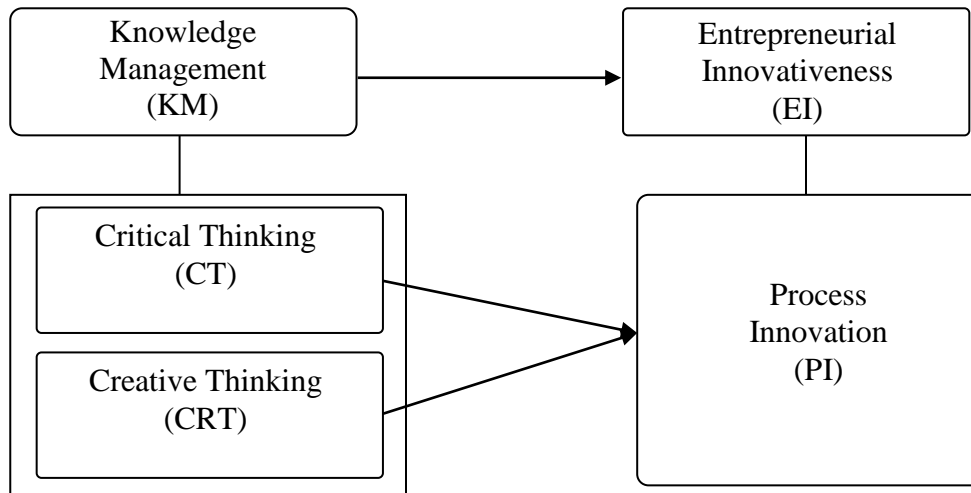
CONCEPTUAL FRAMEWORK: THE STUDY VARIABLES

Figure 1: Conceptual Framework and Operational relationship between Knowledge Management and Entrepreneurial Innovativeness in SMEs in Rivers State, Nigeria

Source: Researchers' Conceptualization.

Figure 1 above depicts the conceptual framework of the study showing the functional and operational relationships of the study variables. Contingent upon the concepts involved in the study research questions, two major study variables are involved and these are, the predictor and criterion variables. The predictor variable in this study is Knowledge Management (KM). Knowledge management has such dimensions as Critical Thinking (CT) and Creative Thinking (CRT). The criterion variable is Entrepreneurial Innovativeness (EI). The measure of entrepreneurial innovativeness is process innovation. In order for the organizations to achieve their objectives, survive and Prosper, and earn appreciable profits, great extent of each of these components in the conceptual framework of the study must be achieved as relatedly opined by Chikwe and Anwuri, (2017).

A study hypothesis represents a tentative answers to the study research questions (Ozuru and Chikwe, 2015). Based on the study aim and specific objectives, and the identified major study variables in the conceptual framework above, the following research hypotheses are posited to serve as tentative answers to the research questions, as well as helping to examine the extent of relationships between the predictor and criterion variables, and the empirical evidence.

Ho₁: There is no significant relationship between critical thinking and process innovation of SMEs in Rivers State, Nigeria.

Ho₂: There is no significant relationship between creative thinking and process innovation of SMEs in Rivers State, Nigeria.

Research Hypothesis

Literature Review

Knowledge Management

Conceptually, knowledge can be described as a kind of familiarity, awareness, or understanding of something or someone, such as facts, information, descriptions, or skills, which are acquired through experience or education by perceiving, discovering, or learning (Okereke, Chikwe, and Oparanma (2018). In the view of Lee and Lan (2011), knowledge itself can be perceived as an important success factor for the achieving of innovations and sustainable competitive advantage of organizations. In another development, knowledge management can also be defined as the process of acquiring, storing, disseminating, sharing and using productive knowledge to improve the performance of organizations (Darroch, 2003). However, some scholars have relatedly noted that knowledge management is the best strategy to enhance competition for any business, since knowledge is a strategic source that allows firms to obtain a higher level of output, competitiveness and innovation (Corso, Martini, Pellegrini and Paolucci, 2003). In his own view, Nonaka (1994) argued that knowledge is a multifaceted concept with multilayered meanings. In relation to Nonaka's view, Hawryszkieycz (2010), noted that knowledge is abstract in reality and hard to pinpoint at, and further expressed that, knowledge is more on knowing how to interpret information and providing new insight to solve problem at hand. In a related assertion, we stressed that knowledge can be moved, stored and valued, while others accordingly emphasize that knowledge can give people the feelings and thoughts that they can use to develop new ideas.

It is important to remark and as relatedly noted that knowledge can be easily obsolete and useless if proper management

is not critically exercised within the organization (Odionye and Nnodim, 2017). In relating knowledge management to innovation, Chirico (2008) highlighted the importance of knowledge to achieve innovation, and concluded that, innovation is a goal, whereas knowledge management is a method.

Traditionally, and in the business world, knowledge-based intention tend to be more of service-oriented, and has become the strategic driver of the economy and innovation, as well as exploring the windows of opportunities that will enhance entrepreneurial innovativeness and competitive advantage of SMEs. The underdevelopment of the Nigerian private sector is occasioned by the general weak and unstable state of the small scale businesses (Ogbole and Akinsola, 2019). This strategic lapse is relatedly associated with low level of entrepreneurial innovativeness driven by poor knowledge management, which is partly responsible for the slow pace of economic growth and development in Nigeria, and the study area in specific. As argued by Chikwe and Biriowu (2019), managerial competencies arising from good knowledge management can help organizations such as SMEs to innovate and become first to the market. In the same vein, being first to the market as a result of critical thinking and creative thinking in knowledge management arms a firm with a number of distinct competitive advantages. Also, being first to innovate with the help of entrepreneurial competencies bundles derived from knowledge management can aid the SMEs to innovate and have windows of opportunities to competitively set up standards that others must follow.

Knowledge is very significant in the innovation process, since it acts as a necessary input. It is good for entrepreneurs

to be increasingly aware that knowledge resources are strategic to the entrepreneurial innovativeness, SMEs survival and sustainability. This increasingly awareness pursuit should also make entrepreneurs to take into account the value of creativity and innovativeness, which also enhance the transformation of one information type to the other useful one. In a like manner, Hana (2018), asserts that, the success of any organization depends strategically on its employee useful knowledge, experience, creativity, innovation activities and qualifications.

Despite the recorded fact and realization that SMEs are the engine of any economy (Chikwe and Biriowu, 2019), the need for high level attention on effective knowledge management that will necessitate a desirable entrepreneurial innovativeness in Nigeria, and Rivers State in particular, becomes imperative and comes to fore. For instance, the United States of America (USA), Japan, China and many other developed economies are largely private sector (e.g. SMEs) driven (Ogbole and Akinsola, 2019). These countries do not play the kind of party politics interference on SMEs growth and development as plaguing Nigeria, and study area in specific. Accordingly, SMEs in these developed economies thrive better in view of the enabling environments provided by their committed governments' interest SMEs and their entrepreneurial innovativeness and development.

The ever-increasing importance of knowledge in our modern society, daily undertakings and SMEs in specific in the study area, calls for a change in our thinking. This needed change thinking as it relates to knowledge management, products and services design and taste is conceptualized and transformed to critical thinking and

creative thinking in our present study. These two constructs serve as our strategic dimensions that will predict on entrepreneurial innovativeness which is our criterion variable. This approach and inclusion in our present study on knowledge management dimensions that will predict on entrepreneurial innovativeness, marks as part of our point of departure of the present study from other related studies, and contribution to knowledge.

Critical Thinking

This is a deliberate and systematic processing of knowledge information as to make better decisions and generally understand things described as the intellectually disciplined process of activity and skillfully conceptualizing, applying, analyzing, synthesizing, and or evaluating of knowledge information gathered from, or generated by observation, experience, reflection, reasoning, or communication, as guide to belief and action (Foundation for Critical Thinking, 2015). Knowledge management in SMEs is constantly in the process of advancement and need critical thinking that will enhance entrepreneurial innovativeness. Through the techniques of critical thinking, the process of knowledge management itself could be criticized, weed off fallacies in order to achieve entrepreneurial innovativeness in SMEs. One logical fact that needs to be noted is that, critical thinking is a knowledge process which enhances the fostering of creativity, while creative thinking in every ramification serves as another starting point of critical thinking for achievement of innovativeness. It is important to remark that the amount of information that flow into the World Wide Web (www) carry with it high level of challenges regarding to what and which information that is real and authentic. To

ascertain the authenticity, critical thinking that will enhance innovativeness comes to fore.

In critical thinking, we guide our thoughts and actions on what to innovate, and not to engage on intuition or instinct, but to examine our ideas, having in mind the knowledge acquired to embark on the specific innovativeness process route, and acquired knowledge transmission into products and services.

Creative Thinking

This is the cognitive and imaginative processes of generating new ideas, which deals with learning to generate and apply novel ideas in specific contexts, seeing existing situations in a way, identifying alternative explanations and making new connections in order to arrive at a new useful outcome (Ajaezu, 2017). Creativity forms the barometer for measuring how critical thinking a person is. Creative thinking guarantees entrepreneurs to innovate and turn out new valuable things, with no repetition of what other generations have been doing. To be creative and innovative, three requirements need to be fulfilled, and these according to Osiyemi (2017) are:

- that he or she is able to make some valuable products;
- that this product will bring about a positive change in the existing system, i.e. innovation must take place.
- that this positive change will be valuable for the domain in which it was created.

It takes creative thinking to achieve innovation, and this implies that, creative thinking enhances entrepreneurial innovativeness. Creative thinking involves two processes as argued by Umar (2017), and these are: the thinking or having a mental image and turning such image into something real and practical, capable of

meeting human needs in terms of innovativeness. Creative thinking forms the strategic barometer to be adopted in measuring how critical and creative an entrepreneur or person is.

As relatedly emphasized by Bolaji (2018), creative thinking hinges on the potential ability of persons to make or bring about something new into existence (i.e. innovation), which could be new solution to a problem, new method, device or artistic work (i.e. innovativeness). This analogy implies or conveys the notion of new concepts, new designs, new opportunities, new products and services, new behaviours, and so on. Creativity through effective knowledge management can be said to be a kind of habit of mind that releases man from old ways of thinking or reasoning, behaving, and appearing.

Entrepreneurial Innovativeness

Innovation is the process of translating an idea or invention into a goods, product, or service that create value or for which customers or admires will adopt, appreciate or pay (Chikwe and Biriowu, 2019). Entrepreneurial innovativeness itself relates to the entrepreneurial potential ability and power to create better or more effective products and services, process, technologies or new ideas that could be readily available to markets and society at large (Chikwe and Biriowu, 2019). Entrepreneurial innovativeness implies that an entrepreneur possess critical thinking and creative thinking, and is inventive, due to his or her entrepreneurial skills or action. Innovativeness as argued by Goldsmith and Foxal (2003), is an inter-individual differences that characterize how people respond to new things. Based on this premise, innovativeness is a characteristic that is possessed by all knowledgeable

people to a greater or lesser degree, through knowledge acquisition and other knowledge management processes.

Effective knowledge management relates to innovation which links to and enhances increased productivity, market share, and profitability, as well as being the index of a company's or nation's economic health. Innovation strategy via knowledge management competencies is vital developmental strategy and fundamental to competitive advantage (Chikwe and Biriowu, 2019). In view of these, there must be the need in SMEs in the study area, to create a specific knowledge management organization that are supportive to innovation. As remarked by Chinonye, Maxwell, Mosunmola, Mayowa and Fred (2016), innovative firms will have the knowledge and ability to adapt to the dynamics of changing business environment more than firms that are less innovative.

Process Innovation

This relates to how products are made or ways of developing or creating new ways of producing, distributing or selling existing goods or services. Process innovation also relates to the executing of new and significantly improved methods or processes of delivering services, as well as changes in techniques, equipment, and so on. As opined by Boer and During (2011), process innovations have an internal focus and aim at increasing efficiency and effectiveness of internal organizational processes. In terms of its operating architecture, process innovation can be described as a mixture of services, skillfulness and machinery that can be used to produce goods or supply services (Chikwe, N.D.). In simple term, he stressed that, process in general includes a collection of jobs, a stream of objects and information

that tie these jobs, as well as storing of materials and information. Process innovation could further be considered into: (1) technical process innovations, and (2) non-technical process innovations, and these could be understood to be organizational innovation (Armbruster, Bikfalvi, Kinkel, and Lay, 2014). Vijay (2013), and Okereke, Chikwe and Oparanma (2018), relatedly argued that success in process innovation is guaranteed through generating a pilot survey of new processes, watching and developments in the new process, based on response from pilot run, large scale education of entire employees, marketable use of fresh process in the organization.

Research Methodology

The study adopted cross-sectional research design. From the list of SMEs registered with Rivers State Ministry of Trade and Commerce in Port Harcourt, 40 SMEs were statistically selected from the following industries as relatedly noted by Chikwe and Ozuru (2017): Building and Construction; Food and Beverage Processing; Poultry and Fisheries Ventures; Welding Works/Fabrication; Furniture/Wood Works; Plastics and Nylon Bags; Electrical and Electronic Products; Printing and Computer Accessories; Leather Works and Products, and Fashion and Design (Fabrics). From each of the 40 selected SMEs, three respondents were purposively selected in each SME, and these comprise of the owner-entrepreneur, manager and assistant or supervisor, in view of their strategic departments, units or positions in the system. This method is similar to what Byukuseng, Munene and Orobia (2016), argued in their study of SMEs in Rwanda. Based on this selection procedure, the sample size therefore consists of 120 respondents that were served with copies of the Likert 5-point scale

and code measure structured questionnaire, used for data collection. After data cleaning, 112 copies of the data collection instruments were found fit for use in data analysis. Pearson's Product Moment Correlation

Statistic at 0.05 level significance was used in data analysis with the aid of Statistical Package for Social Sciences (SPSS) software, with the view of achieving the specific objectives of the study.

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

Table 1: Correlations analysis indicating the direction and magnitude of relationship between critical thinking as a dimension of knowledge management and process innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria

Variable	1	Statistics	Critical Thinking	Process Innovation
Critical Thinking		Correlation Coefficient (r)	1.000	.735**
		Sig. (2-tailed)		.000
		N	112	112
Process Innovation		Correlation Coefficient (r)	.735**	1.000
		Sig. (2-tailed)	.000	
		N	112	112

**Correlation is significant at 0.05 level; $p < 0.05$

Source: Research Data, and SPSS Output

The relationship between critical thinking as dimension of knowledge management and process innovation as a measure and aspect of entrepreneurial innovativeness in SMEs in Rivers State, Nigeria, is as shown in table 1 above. The correlation coefficient ($r = 0.735$; $p < 0.05$), indicates that a strong positive relationship exists between critical thinking and process innovation. The p-value = 0.000, which is $p < 0.05$ assert that critical thinking has a strong influence and significant impact on process innovation aspect of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria. The existence of this relationship is related to what Karfe (2017) assert that, through criticism arising from

critical thinking, one can processually innovate, scrutinize and test the propositions (as applicable in process innovation), which are offered for acceptance in order to find out whether they match with innovation process and innovativeness reality. Similarly, the result of our finding is in relation to what Risikat and Akogun (2017) contend that, any subject, content, or problem which the thinker (e.g. entrepreneur or manager) improves the quality (i.e. by being innovative) of his or her thinking by skillfully analyzing, assessing and reconstructing (i.e. process innovation) is regarded as being achieved or solved through critical thinking.

Table 2: Correlations analysis indicating the direction and magnitude of relationship between creative thinking as a dimension of knowledge management and process innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Variable 1	Statistics	Critical Thinking	Process Innovation
Creative Thinking	Correlation Coefficient (r)	1.000	.770**
	Sig. (2-tailed)		.000
	N	112	112
Process Innovation	Correlation Coefficient (r)	.770**	1.000
	Sig. (2-tailed)	.000	
	N	112	112

**Correlation is significant at 0.05 level; $p < 0.05$

Source: Research Data, and SPSS Output

Table 2 above indicates the relationship between creative thinking as a dimension of critical thinking and process innovation as adopted sole measure of entrepreneurial innovativeness in the present study. The relationship showed the correlation (r) = 0.770, $p < 0.05$. This indicate that, a strong positive and significant influence or relationship exist between the predictor and criterion variables. This relationship and findings are related to what Umar (2017) asserts that, creativity is the act of turning new and imaginative ideas into reality (i.e. creative thinking enhances process innovation and overall innovativeness).

Conclusions

Based on the findings of our study, we conclude that every innovative process and entrepreneurial innovativeness depends on effective knowledge management via critical thinking and creative thinking. This implies that knowledge management is strategic in any innovative process and no entrepreneurial innovativeness without

basic knowledge through critical and creative thinking. The study also concludes that entrepreneurial innovativeness is principally rooted through critical and creative thinking knowledge that occasion entrepreneurial cognitive development and eventual innovativeness.

Recommendations

On the basis of our study findings and conclusions, the following recommendations are therefore advanced:

- Critical thinking and creative thinking should be greatly emphasized by entrepreneurs and other staff of SMEs in the course of brainstorming and knowledge management process in order to engender innovativeness and innovation in the system.
- Greater attention should be given to knowledge management in SMEs in order in achieve entrepreneurial innovativeness and ultimate innovation.

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