

CREATIVE THINKING AND ENTREPRENEURIAL INNOVATIVENESS OF SELECTED SMALL AND MEDIUM ENTERPRISES (SMEs) IN RIVERS STATE, NIGERIA

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Abstract

The study philosophically and empirically examined if creative thinking relates to entrepreneurial innovativeness of small and medium enterprises in Rivers State, Nigeria. Creative thinking is involved in recognizing, remembering, reasoning, inventing, emoting, imagining, and decision making, and these enhance entrepreneurial innovativeness and innovations. Creativity forms the barometer for measuring how innovative an entrepreneur should be that will enhance innovativeness, innovation and competitive advantages achievements. Creativity is the battle ground for competitive firms. Cross-sectional survey and Likert 5-point scale measure structured questionnaire were adopted. 50 small and medium enterprises were statistically selected from 10 industries in Rivers State. Based on the 50 enterprises, the entrepreneur and assistant in each enterprise were purposively selected to arrive at 100 respondents, constituting the sample size. After data cleaning, 92 copies of questionnaire were used in the analysis. Multiple regression and Pearson's correlation statistical techniques at 0.05 level of significance were adopted in the analysis, with the aid of Statistical Package for Social Science. Strong positive and significant relationship exists between the study predictor and criterion variables. Entrepreneurs should not be locked up in the old ways of doing business, but to adopt creative thinking in line with the business environment dynamism and comparative competitiveness in the marketplace, was recommended amongst others.

Key words: Creative Thinking; Critical Thinking; Knowledge Management; Entrepreneurial Innovativeness; Innovations; SMEs.

Introduction

There is a saying that people are what they eat, and such goes to reason that thinking (our thought) constitutes what we are. Creative thinking is a mental cognitive activity in the sense that, we consciously make use of our brain in ruminating around the world within our operational and distant environments to achieve creativity, innovativeness and innovation. Philosophically, creativity cannot take place without the related thinking that can enhance the materialization of such objective creativity. Creative thinking is also a critical mental process that creates ideas, products, services, as well as informed decisions that generate/enhance entrepreneurial innovativeness and innovation. Without creative thinking, human beings cannot make innovative decisions to create needed goods and services, draw conclusions on what to create, as well as arriving at desired or right choices and informed plans to enhance entrepreneurial

innovativeness, as relatedly asserted by Shah (2012). Human beings imaginations are products of creative thinking process that lead to creativity and related innovativeness and innovations. Human achievements mostly result from creative thinking. Creative thinking process enables humans to picture what to create, as well as drawing to the mind or having the mindset of abstract and distant ideas or objects to create. This implies that creative thinking constitutes a mixture of pictures, memories, images and impressions in our thought, which may come in stream-like manners, and can be philosophically and psychologically regarded as the movement of impressions and conceptualization of objects to be created.

Creative thinking can be applied to entrepreneurial innovativeness and when such thinking is directed toward invention, it may be regarded as scientific thinking, or innovative thinking, and when it borders on ethical issues,

moral thinking perspectives come to fore. As relatedly opined by Orlukwu (2019), the knowledge of existence of an object via creative thinking comes in two key areas; that is, when the object is present or absent. When the object is present, descriptive thinking could be applied, and when absent, inferential thinking could be adopted to achieve creativity. There is certainty when knowledge is gained via inferential thinking, irrespective of such not being easily soluble (i.e. may not easily be explained). Philosophically, a lot could be learnt through inferential thinking. This in essence, can involve two basic presumptions relating to having a proposition that could be generally known to be true, or on the other hand, having an established rule or principle to serve as a guide to anchor the inference. Creative thinking is a continuous mental exercise, and this makes words, ideas and productive creativity to keep haunting our mind. This explains the fact that even when we are asleep, some words can flow into our mind for rumination and object creativity.

As asserted by My-angel-reading (in Orlukwu, 2019), human beings can speak at the rate of 150 to 200 words per minute, and accordingly think at the rate of 1300 to 1800 words per minute; while reading as suggested, can be on the average, at the rate of 200 to 400 words per minute. Thinking and associated creativity are involved in the following human actions or activities; recognizing, remembering, reasoning, emoting, imagining and decision making. The directing and advancement of human thoughts in arts, sciences, and business world cannot be achieved without creative thinking and the outcome of these creative thoughts can proffer solutions to human needs and problems, since creative thinking is a mental cognitive activity. It therefore implies that by philosophical and psychological analogy, we make use of our brains to have the understanding of things of the world around us. The quality of our creative thinking psychologically and philosophically determine the quality and value of our lives and valuability of our creativity.

As opined by Enemuoh and Mbaji (2017), to postulate that something should be seen or regarded as creative in value, it should be

something that has not experienced innovation or existed or not being a product of entrepreneurial innovativeness and innovation. Such thing should therefore belong to or attract patent rights by the entrepreneur's innovativeness and innovation ingenuity under any society's or nation's intellectual property rights laws. With reference to the Laws of the Federation of Nigeria (LFN) 1990, Sections 1 and 2, relating to the Patent and Design Act, the Act provides that creative works are works that are patentable. This implies that creative thinking can lead to entrepreneurial innovativeness and innovation and in the view of Patents and Design Act of LFN, such works are patentable. This results from the entrepreneur's innovativeness, innovation and ingenuity, which can enhance the inventive development and accordingly, advancement of SMEs.

In Umar's (2017) perception, creative thinking is regarded as one acting on his/her ideas. In his own view or perception, when an idea is conceived in the mind, such tend to be imaginative or one may be having a critical thought, but when such thought is employed to produce something, it moves from critical thinking to creative thinking that will enhance innovativeness and innovation. The objection of positive change that will result to new products implies that creativity is being objected. In all, Orlukwu (2019) posits that creative thinking relates to the perception of coming up with innovativeness and innovation. This implies the process of getting a new way of productive thinking with improved values capable of engendering change in an existing system, such as SMEs and the likes.

Purpose and Objectives of the Study

The practice and performance of SMEs in Nigeria and Rivers State in specific, have become a critical and strategic issue debate, as a result of the noted persistent decreasing performance over the years. Researchers have it that the Nigerian SMEs Gross Domestic Product (GDP) contribution in 2001 is 62.1%; 2007 had 50%; 2012 had 46.54%; 2013 had 48.47%, and 2014 had 10% (SMEDAN, 2013; Gbandi and Amissah, 2014; Shehu, 2014). Similarly, in 2016, it was noted that Nigerian SMEs

contribution to GDP were as well low as compared to related emerging economics such as South Africa, Kenya, Ghana and Malaysia, among others (SMEDAN, 2017; Mohammed and Mohammed, 2018). In relation to these, it is important to remark that, every meaningful research must have a foundation and base which will guide the research effort.

This should be so because, any intellectual endeavour devoid of objective base is like a blind-folded man catching sparrows (Chikwe, 2012). Premised on the foregoing, the general purpose of the present study is to examine the extent to which creative thinking can psychologically, philosophically, epistemologically and ontologically enhance entrepreneurial innovativeness and creative capability of small and medium enterprises (SMEs) in Rivers State, Nigeria, with the following specific objectives to guide the research effort.

- To examine the relationship between creative thinking and entrepreneurial

innovativeness of small and medium enterprises in Rivers State, Nigeria.

- To examine the impact of knowledge management, as a dimension of creative thinking on technical innovation, as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.
- To examine the extent of influence of critical thinking, as a component of creative thinking, on technical innovation, as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Hypotheses

- Ho₁:** There is no significant relationship between knowledge management and technical innovation of SMEs in Rivers State, Nigeria.
- Ho₂:** There is no significant impact of critical thinking on technical innovation of SMEs in Rivers State, Nigeria.

Study Variables and Conceptual Framework

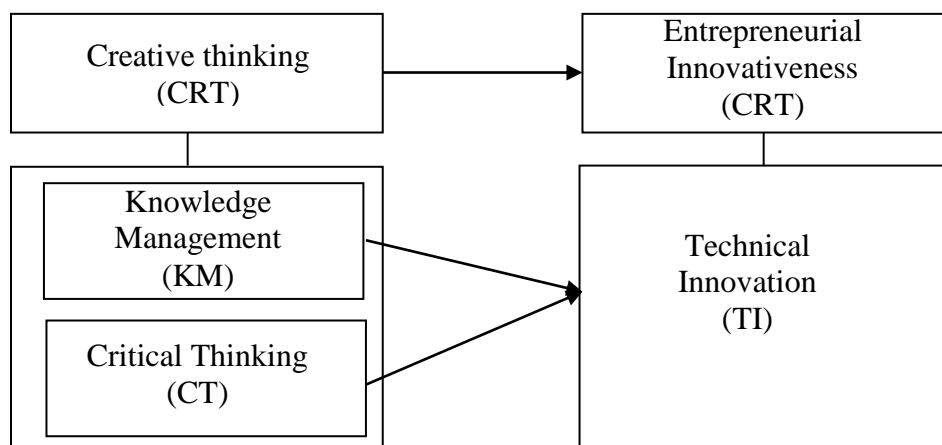


Figure 1: Conceptual Framework and Operational Relationship between Components of Creative Thinking and Entrepreneurial Innovativeness of selected SMEs in Rivers State, Nigeria

Model specifications showing the functional relationships of the study variables

$EI = f(CRT)$

$CRT = (KM, CT)$

$EI = (TI)$

Where:

CRT = Creative Thinking

KM = Knowledge Management

CT = Critical Thinking

EI = Entrepreneurial Innovativeness

TI = Technical Innovation

f = Functional relationship

Conceptual Foundation and Literature Review Contextual and Philosophical Analogy of Creative Thinking

Creative thinking is a mental cognitive process that can enhance the achievement of

original and adaptive insight, idea or solution with the aid of all essential human skills and other resources (Cropley, 2001). Creative thinking relates to the ability to make or bring about, something new into existence, and such could be a new idea, solution to a problem, new method, device or artistic work (Orlukwu, 2019). Creativity could be a kind of habit of mind that makes man to depart from old ways of thinking behaviour and appearing.

Creativity as a process and construct pertains to people and the kind of work they do, that will motivate them to create something of value, that will enhance the solving of the problems at hand or in near future. By nature, man is endowed with creative potentials which can be put in us to create, develop or produce goods and services, depending on the discipline of choice or in question. People from diverse disciplines use or become critical in their thinking, in order to develop and adopt new ways of behaviour, ideas, creativity, innovativeness, and produce needed products and services for the use of a given society.

According to Naman (2016), certain conditions necessitate and encourage creativity, and these are:

- Opportunity
- Motivation/encouragement
- Training
- Sustained practice

In the view of Henton and Walesh, in Onwuka, Enemuo and Mbaji (2017), creative thinking relates to series of dimensions or attributes of an individual or entrepreneur's potential ability to produce valuable ideas and workable tasks, or a unique talent, or pertaining to usage of imagination. In relation to these, Ogunyemi (2017), assert that the elements of creative thinking are, but not limited to openness, autonomy, expertise, versatility, sensitivity, flexibility, intelligibility and exploratory behaviour. Ajaezu (2017), views creative thinking as the process of generating new ideas that deals with learning to generate and apply novel ideas in specific contexts, seeing existing situations in a new way, identification of alternative explanations, as well as making new connections in order to arrive at new useful outcome. In the view of Umar (2017),

creativity is the act of turning new and imaginative ideas into reality, involving the perception of the world in new ways, in order to find hidden talents and patterns to generate solution. These imply that creative thinking involve two key processes, such as, thinking or having a mental image and turning such image into something real and practicable capability of meeting human needs. According to Olaniyi and Abolade (2017), creativity or creative thinking is firstly, a process in process in the mind.

In an attempt to proffer solution to the vague nature of the creative thinking concept, Osiyemi (2017), philosophically advanced five univocal description of the meaning of the word creativity, as:

- The ability to produce something new which has not existed before.
- What is produced as a result of a sudden and unexpected cognition or perception and causes surprises or wonder.
- That which is unpredictable or does not obey the known expected rules.
- What is produced under free conditions and spontaneously, as a result of self expression.
- The potential ability to produce ideas or response that is statistically infrequent for the population of which the individuals are a member.

Odinoye and Nnodim (2017) argue that creativity is a thinking skill and such can be developed through training, provided an individual or entrepreneur could be adjudged to possess the characteristic traits. Some other traits of creativity as they advanced include innovation, invention, originality, novelty and problem solving. These in no small measure will enhance innovativeness.

As Suceintly argued by Orluluwu (2019), irrespective of a person's perfection in the mastery of an art, if newness and innovation are not brought to bear into such art, such person may not merit to be called a creative thinker. In a related development, Ajezu (2017), came up with the understanding that, the part of human brain that is responsible for higher order thinking, such as creative thinking, is the cerebrum, and this is made up of two major parts: left brain and right brain, and

the associated cerebral hemispheres have different functions accordingly. It is important to remark that the right hemisphere connects the left side of the human body, and this side is responsible for creative thinking. Accordingly, and in a related vein, the left hemisphere of the human brain is connected to the right side of the human body, which invariably is responsible for the critical thinking. This view and understanding implies that human beings that operate more effectively with left hand and leg, should be encouraged accordingly in order to achieve creativity, innovativeness and innovations.

Factors Limiting Creative Thinking Exercise

However, as creative abilities may be inherent in most individuals in the view of Ofoegbu and Odinoye (2017); Abe, in Orlukwu (2019), suggest that certain factors could limit the exercise of creativity, such as:

- Fear of ridicule as a result of perceived or possible failure.
- Logical problem: This implies the attempt of trying to be too logical in approaching issues.
- Strict observation and adherence of rules and regulations.
- Fear of creating precedents that may go beyond the accepted standard of doing things.
- Social factors where skilled individuals abandon their profession to join politics for quick money.
- Cultural factors in terms of people resisting change.
- The traditional teacher-centre methods, where the teacher dominates learning activities.
- Unconducive learning environment and dearth of creative teacher.

Consequent upon the above suggested creative thinking limiting factors, it is important to remark that the by-product of the aforementioned factors tend to be more of self and culture. The focus of creative thinking is geared toward stimulating curiosity, promotion of divergence and

enhancement of innovativeness and resultant innovation.

Factors Enhancing Creative Thinking Exercise

In a related development, certain factors or exercises have been noted to enhance creative thinking, and such according to Ajaezu (2017) include:

- Exercising the left side of the body such as writing with left hand.
- Adoption or usage of puzzles or games in language and mathematics. For instance, the solving of a word puzzle, electrical and chemical impulses travel among the neurons in the left hemisphere until an answer is given.
- Games such as crossword purpose, logic brainteasers, smartphone apps and mathematical word problems, which are considered much as good sources of exercising the left side of the brain, thereby enhancing creativity, innovativeness and innovation.

Knowledge Management

Creative thinking for the achievement of self-reliant economy, through entrepreneurial innovativeness of small and medium enterprises (SMEs), via related knowledge and its management as the enabling strategy, has been the ambition of most developing countries such as Nigeria, and Rivers State in specific, as applicable in the present study. The quest for creative thinking and knowledge management that will enhance innovativeness, innovation, economic growth and development have also been the core of human civilization and development (Chikwe and Chikwe, 2020). This need for knowledge management that will necessitate and enhance entrepreneurial innovativeness and innovation of SMEs has become pertinent for the development and advancement of SMEs in Port Harcourt (Okereke, Chikwe and Oparanma, 2018).

As relatedly opined by Enemu and Mbaji (2017), epistemologically and in human civilization, knowledge perspectives that will create innovativeness and innovation have been strategic and man has been involved in one system of

knowledge concept imperatives or the other, to better mankind through the process of knowledge-based critical and creative thinking. No knowledge can be acquired, stored, transferred, and utilized, to mention but a few, without critical thinking and creative thinking that will usher in innovativeness and associated innovation. Irrespective of its critical and vital importance in human existence, economic development and sustainability, knowledge can be easily obsolete and useless if proper management is not critically exercised within the organization, as similarly argued by Odionye and Nnodim (2017). Some scholars have relatedly remarked that, knowledge management is the best strategy to enhance the competition for any business, since knowledge is a strategic resource that allows firms to obtain a higher level of output, competitiveness, innovativeness and innovation (Corso, Martini, Pellegrini and Paolucci, 2003; Isa, 2017). Chirico (2008), in his own view has highlighted the importance of knowledge management to achieve innovativeness and innovation, and concluded that, innovation is a goal, whereas knowledge management is a method.

Critical Thinking

Thinking as a mental, philosophical and psychological construct has been briefly explained in the introductory section of this research. Our duty here is to briefly explain how critical it should be that should enhance entrepreneurial innovativeness in small and medium enterprises (SMEs) in Rivers State, Nigeria. Critical thinking can be described as the intellectual disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and or evaluating information gathered from, or generated by observation, experience, reflection, reasoning, or communicating, as a guide to belief and action (Foundation for Critical Thinking, 2015; Chikwe, 2020). As explained by Chikwe (2020), the product of this assertion evinces that critical thinking can be described as a philosophical and mental discipline that can be manifestable through the application of philosophical modes emanating from sources of knowledge, which sole intent is to guide belief and action, such as innovativeness and innovation. Critical thinking

according to Ajaezu (2017), is the ability to engage in reflective and independent thinking, thoroughly questioning ideas, concepts and assumptions in order to ascertain if acceptable and useful meaning could be decided and constructed. It is vital to note that a critical thinker does not have any knowledge as final (Chikwe, 2020). This is related to what Chukwu (2017), and Orlukwu (2019), similarly argued that, critical thinking is a process of examining and reexamining those previously held assumptions, decisions, concepts and beliefs in the light of new standards and developments. Based on the fore goings, critical thinking can enhance entrepreneurial innovativeness of SMEs in the study area.

As similarly opined by Orlukwu (2019), when someone is considered to be a critical and creative thinker, he/she is equally expected to behave and reason well, since critical thinking and creative thinking are related (Chikwe, 2020), and enhance mind development that in turn, enhance innovativeness, innovative behaviour and innovation.

Critical thinking and creative thinking help the entrepreneur to have innovativeness-centred kind of reasoning and creativity that will engender innovation, self-development and self-fulfillment cultivation. Critical thinking and creative thinking help entrepreneurs to be innovative, impart skills such as evaluating, inferring, integrating, analyzing, brain storming, open-mindedness, flexibility, and associated risk-taking (Chikwe, 2020).

Entrepreneurial Innovativeness

Entrepreneurial innovativeness implies that the entrepreneur tend to be critical, creative and innovative in his or her characteristic behaviour and skillful actions. In the view of Chikwe and Biriowu (2019), entrepreneurial innovativeness relates to the entrepreneurial potential ability and resourcefulness to create better and more effective products and services, processes, technologies or new ideas that could be readily available to markets and society at large. In cognitive perspective, innovativeness relates to the increased creative and innovative information gathering or products and services involvement (Raju, 1980; Goldsmith, 1983). In

addition, entrepreneurial innovativeness implies that an entrepreneur possess critical thinking and creative thinking, incentive and innovativeness characteristics, due to his or her entrepreneurial skills and actions (Chikwe, and Chikwe, 2020). In the view of 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. The innovativeness prediction as remarked by Wood and Swait (2002), has been remarkably enhanced resulting from explicit consideration of both cognitive and sensory dimensions. Entrepreneurial innovativeness is related to entrepreneurial orientation because the entrepreneur can adopt innovativeness orientation to enhance innovation performance in SMEs. Also research has it that entrepreneurial orientation of SMEs is a combination of three dimensions namely, innovativeness, proactiveness and risk-taking (Dai, Maksimov, Gilbert and Fernhaber, 2014, in Mohammed and Mohammed, 2018).

Technical Innovation

Technical innovation relates to the technical architecture involved in the creation and production of goods and services. Technical innovation is associated with the basic research and development efforts enhanced by critical thinking and creative thinking, and initiated by managers or entrepreneurs for the purposes of creating and inventing new, better, faster and relatively cheaper products and services often desired by customers. In order to achieve these, entrepreneurs or managers are expected to be creative, innovative and put requisite basic infrastructure in place to enhance processes of innovation. In the view of Griffin (2002), the two most important types of technical innovations are product innovations and process innovations. The strategic drivers for entrepreneurial innovativeness and technical innovation via product and service innovations are often profit and market growth by various means.

This assertion in relation to Sharma's (2008) view implies new products and services to increase market share, product and service return on investment, or improving time to market. The link

between entrepreneurial innovativeness and technical innovation as a measure is important, because such establishes innovation as a function of all conceivable business and manufacturing contexts (Needle, 1995). The technicalities involved in entrepreneurial innovativeness associate innovation with the innovative processes relating to new products and services designs in the manufacturing industry. Examples of technical innovation as a result of critical thinking, creative thinking, associated knowledge management and related entrepreneurial innovativeness abound. For instance, in the financial services industry, there is the strategic transformation of banking services by the introduction of automatic cash dispensers using banking tool such as automated teller machine (ATM) and card.

Thus, entrepreneurial innovativeness and innovative creativity and innovation have given the general public greater leverage and access to their accounts and banking services with ease. Also, in the entertainment industry, application of critical thinking and creative thinking, as well as related knowledge management have enhanced entrepreneurial innovativeness to create multi-screen cinemas, which offer the general public a wider choice, in addition to significant increases in attendance revenue yielding, as similarly remarked by Needle (1995). In a related vein in the tourism and hospitality industry, and travel industry, for instance, booking of hotel rooms and airline seats booking have been revolutionized as a result of critical thinking and creative thinking that enhanced entrepreneurial innovativeness that created the resultant computer booking systems innovations. In the education industry, critical thinking and creative thinking with related knowledge management architecture have enhanced and created the development of new courses curricula and methods of courses delivery innovations, such as applicable in distant learning programs.

Methodology

The study adopted a cross-sectional survey method and structured questionnaire as the research data collection instrument. Likert 5-type scale measure structured questionnaire, ranging

from Very Low Extent (VLE) to Very High Extent (VHE) was designed. The study target population consists of all registered SMEs with Corporate Affairs Commission in Port Harcourt, Rivers State. From the list of registered SMEs, 50 SMEs were statistically selected from the underlisted 10 industries as similarly argued by Chikwe and Wechie (2019), in their study of SMEs in Port Harcourt. These are: Fashion and Design (Fabrics); Building and Construction; Foods Processing; Welding Works/Fabrication, Carpentry/Wood Works; Poultry Feeds; Plastics and Nylon bags; Computer and Printing press; Household materials; and Leather Work Products. Based on each of the 50 statistically selected industries' enterprises, two persons from each industry and location were purposively selected; specifically, the entrepreneur or manager and one strategic supervisor or assistant in each industry enterprises or company.

These summed up to 100 respondents as the sample size. This choice and methodology were as relatedly adopted by Byukeng, Munene and Orobia (2016), and Chikwe and Wechie (2019), in their studies of SMEs in Rwanda and Port Harcourt respectively. Premised on these, the study considered the entrepreneurs or managers and respective assistants or supervisors as the unit of

analysis, since they occupy strategic positions, as similarly opined by O'Regan and Ghobadan (2004), in their study of innovations in SMEs. The relevance and consistency of the data collection instrument were ascertained, achieving a Chronbach's Alpha coefficient value of 0.866. After data cleaning, 8 copies were found invalid and discarded accordingly, and 92 copies found fit for use in the analysis. Data were analyzed using Pearson's Product Moment Correlation and Multiple regression statistical techniques at 5% level of significance, with the aid of Statistical Package for Social Science (SPSS) software.

Data Analysis, Findings and Discussions

Ho₁: There is no significant relationship between knowledge management as a component of creative thinking and technical innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Ho₂: There is no significant impact of critical thinking as a dimension of creative thinking on technical innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Table 1: Model summary of knowledge management as a component of creative thinking (the predictor or explanatory variable) and technical innovation as a measure of entrepreneurial Innovativeness of SMEs in Rivers State, Nigeria

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.904 ^a	.817	.815	.346

a. Predictors: (Constant), Knowledge Management

Source: Research Data; SPSS Output

The model summary output in table 1 above represents the correlation coefficient value of .904. This indicates a linear relationship existing between the variables. This implies that knowledge management as a component of creative thinking is associated with technical innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Similarly, the adjusted R square value of .815 (i.e. which is the coefficient of determination) indicating the rate of change (i.e. 81.5%) in technical innovation as a measure of entrepreneurial innovativeness of SMEs and as accounted by knowledge management in the established relationship in the study area.

Table 2: Model summary of critical thinking as a dimension of creative thinking (the predictor or explanatory variable) and Technical Innovation as a measure of Entrepreneurial Innovativeness of SMEs in Rivers State, Nigeria

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.946 ^a	.890	.881	.553

a. Predictors: (Constant), Critical Thinking

Source: Research Data; SPSS Output

The model summary output in table 2 above indicates a linear correlation coefficient value of .946, depicting that a linear relationship exists. This shows that there is a relationship between critical thinking as a dimension of creative thinking (being the explanatory variable) and technical innovation as

the measure of entrepreneurial innovativeness in the present study. The adjusted R square value of .881 (i.e. 88.1%), being the coefficient of determination, indicating the rate of change in entrepreneurial innovativeness as accounted by creative thinking in the established relationship.

Table 3: Regression Analysis of knowledge Management as a Component of Creative Thinking and Technical Innovation as a measure of Entrepreneurial Innovativeness of SMEs in Rivers State, Nigeria

		Coefficients ^a			t	sig.
Model		Unstandardized coefficients		Standardized coefficients		
		B	Std. Error	Beta		
1	Constant	6.005	.510		11.811	.000
	Knowledge Management	3.173	.111	.922	28.885	.000

a. Dependent variable: Technical Innovation

Source: Research Data; SPSS Output

The regression analysis results in table 3 above indicate that knowledge management as a dimension of creative thinking exhibited a significant positive effect on technical innovation which is a measure of entrepreneurial innovativeness of SMEs in the present study area, with a coefficient value of .922, $p < 0.05$. The indicated significant / p-value of 0.000, which is less than the study chosen significant level of 0.05, results to the rejection of the null hypothesis (H_{01}). This therefore suggests that a significant and positive relationship exist between

creative thinking and entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

This result is in line with the findings of Shehu (2014), regarding to SMEs and entrepreneurial activities and innovativeness of SMEs. Related relationship results and findings in the aspect of entrepreneurial orientation as the willingness to engage in a more innovative, risk, and uncertain activities in the market place abound (Deh, Asuamah, and Agyemang, 2013).

Table 4: Regression Analysis of Critical Thinking as a Dimension of Creative Thinking and Technical Innovation as a Measure of Entrepreneurial Innovativeness of SMEs in Rivers State, Nigeria.

		Coefficients ^a			t	sig.
Model		Unstandardized coefficients		Standardized coefficients		
		B	Std. Error	Beta		

1 (Constant)	1.517	2.109		7.20	.000
Critical Thinking	1.351	.260	.885	5.170	.000

a. Dependent variable: Technical Innovation

Source: Research Data; SPSS Output

Table 4 above presents the regression coefficient estimates and their test of significance. By statistical convention rule, the results are assessed by the significant/p-value against the level of significance (0.05) adopted. In the case of table 4 above, the p-value is 0.000, which is less than 0.05,

and the null hypothesis is therefore rejected, indicating that a significant and positive relationship exist between critical thinking as a component of creative thinking and technical innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Table 5: Results of hypothesis test on Knowledge Management and Technical Innovation of SMEs in Rivers State, Nigeria

Correlations			
Variable 1	Statistics	Technical Innovation	Knowledge Management
Knowledge management	Correlation	.861**	1.000
	coefficient (r)		
	sig. (2-tailed)	.000	
	N	92	92
Technical innovation	Correlation	1.000	.861**
	coefficient (r)		
	sig. (2-tailed)		.000
	N	92	92

** Correlation is significant at 0.05 level (2-tailed); p<0.05; SPSS Output

r = Pearson's Product Moment Correlation Coefficient

As reflected in table 5 above, the results of the analysis on the relationship between knowledge management as a dimension of creative thinking and technical innovation as a measure of entrepreneurial innovativeness, showed a correlation coefficient (r) of .861, at 0.05 level of significance, and p-value of .000. These figures revealed that, strong positive and significant

relationship exist between knowledge management as a component of creative thinking and technical innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, Nigeria. This implies that creative thinking impacts on and enhance entrepreneurial innovativeness and consequently innovations.

Table 6: Results of Hypothesis test on Critical thinking and Technical Innovation of SME in Rivers State, Nigeria

Correlations			
Variable 1	Statistics	Technical Innovation	Critical Thinking
Critical Thinking	Correlation	.885**	1.000
	Coefficient (r)		
	Sig. (2-tailed)	.000	
	N	92	92
Technical Innovation	Correlation	1.000	.885**
	Coefficient (r)		

	Sig. (2-tailed)		.000
	N	92	92

** Correlation is significant at 0.05 level (2-tailed); $p < 0.05$; SPSS Output

r = Pearson's Product Moment Correlation Coefficient

As indicated in table 6 above, the outcome of the analysis on critical thinking as a component of creative thinking, and technical innovation as a measure of entrepreneurial innovativeness of SMEs in Rivers State, showed a correlation coefficient (r) value of .885, at 0.05 level of significance, and a corresponding significant/ p -value of .000. These figures revealed that a strong positive and significant relationship exist between critical thinking and technical innovation of SMEs in Rivers State, Nigeria. These results and findings demonstrate that creative thinking relates to and impacts on entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.

Conclusions

Based on the results and findings, the study concludes that:

- There is a positive and significant relationship between creative thinking and entrepreneurial innovativeness of SMEs in Rivers State, Nigeria.
- Creative thinking is rooted in the development of entrepreneur's mental cognitive domain development and innovative capabilities and decision making.
- Critical thinking and creative thinking as well as knowledge management are sure ways that guarantee entrepreneurial innovativeness and innovations for the achievement of sustainable competitive advantages in the market place.
- Good behaviour is fundamentally a function of critical thinking and creative thinking.
- Since no entrepreneur is immune to challenges, creative thinking is therefore, a necessary and sufficient condition in the enhancement and achievement of innovativeness and resultant innovations in SMEs in Rivers State, Nigeria.

Recommendations

From the findings and conclusions of the study, the following objective recommendations are proffered.

- Entrepreneurs or managers of SMEs should welcome and embrace the innovativeness and innovative skills that critical thinking and creative thinking have engendered to ensure the enterprise competitive advantage and sustainability.
- Entrepreneurs should not be locked up in the old ways of doing business, but to adopt critical thinking and creative thinking, in line with the business environment dynamism and comparative competitiveness in the marketplace.
- Government should motivate and encourage entrepreneurial critical thinking and creative thinking that will enhance innovativeness and innovations.
- The focal point of every responsible entrepreneur's thinking should be based on creativity, innovativeness, innovative development and innovations sustainability.
- Since SMEs have been generally adjudged as the engine of every emerging economy like Nigeria, entrepreneurs in the country should maximize their critical thinking and creative thinking skills potentials in order to guarantee self-reliant and sustainable competitive economic development.

Implications of the study and Contribution to Knowledge

Drawing from the study synthesis of literature, hypotheses, results, findings, conclusions and recommendations, the following implications of the study and contribution to knowledge are therefore posited.

- The fundamental key to unlocking the entrepreneurial potentials and achieving innovativeness, resultant innovations and

competitive advantages is of course, engaging in responsible critical thinking and creative thinking.

- The study has expanded the frontier of knowledge in philosophy, psychology and general management in knowledge gap filling and establishing relationship between creative thinking and entrepreneurial innovativeness of selected SMEs in Rivers State, Nigeria.
- Logical and creative thinking ensure mental cognitive and progressive innovative development.
- The philosophical and psychological modes of reasoning in creative thinking reduces the chances of making mistakes in innovative actions, products and services creativity.
- Creative thinking enhances innovativeness, mental cognitive and intellectual development and innovations.
- Creative thinking makes entrepreneurs to rule, evaluate or administer by reasoning and not emotion or act on the spur of the moment or opinion.
- Creative thinking enhances mind's engagement in full utilization and objectives realization and sustainability.
- Success and happiness in business are philosophically, psychologically, and epistemologically tied to the entrepreneur's creative thinking potentials and abilities. This is so because, his/her mind runs his/her life, which consequently is the product of streams of effective decisions made through thoughts (thinking).

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