

Effect of Innovation on Entrepreneurial Success of Manufacturing Small and Medium Firms in North-Central Nigeria

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Abstract: This study investigated the effect of innovation on entrepreneurial success of manufacturing small and medium firms in North-Central Nigeria. The study sought to establish the relationship between innovation and entrepreneurial success in form of product, process, management, marketing innovations and improved personal wealth, market expansion as entrepreneurial success. A cross sectional survey research design was adopted for the study with the target population of 393 selected business owners/ managers and head of finance of manufacturing SMFs in six (6) state capitals of North Central Nigeria which also form the sample size of the study drawn using Census sampling method. The study used primary source of data, collected with the aid of closed-ended questionnaires while a convenient and purposive sampling were adopted in choosing respondents for the study. Regression analysis was conducted with the aid of Statistical Package for Social Sciences (SPSS Version 0.29) to ascertain the effect of innovation on entrepreneurial success of manufacturing SMFs in North-Central Nigeria. Finding revealed that there is positive relationship between innovation dimensions of product, process, management, marketing innovations and entrepreneurial success measures of improved personal wealth, market expansion. Statistically, product innovations has a t-value (2.537) and p-value of (0.022); process innovation has a t-value of (5.423) and p-value of (0.000); management innovation has a t-value of (3.118) and p-value of (.002); while marketing innovation has a t-value of (8.071) and p-value of (0.000). It was concluded that all the dimensions of innovation in this study (product, process, management, marketing innovations) has a significant influence on entrepreneurial success (improved personal wealth, market expansion) of manufacturing SMFs in North Central Nigeria. The study recommended among others that Entrepreneurs in manufacturing firms in Nigeria are encourage to be flexible and consistent in product innovation by adding more value to their existing product, improving constantly product quality generating more or additional uses of product and increasing the products line. In this way, more consumers requirements or desires will be met, more income, profit will be generated and entrepreneurs will have their firms grow, market expand, and improved their personal wealth with economic effect of more employment generation, increased national income, competitive advantage and improved gross domestic product (GDP) and general well-being.

1.0

INTRODUCTION

1.1 Background to the Study

In today's global business environment, innovation is key to achieving and sustaining entrepreneurial success, this is because innovation has the capacity to improve personal wealth and expand the market of entrepreneurs, therefore the need for innovation in manufacturing Small and Medium Firms for entrepreneurs can never be over emphasized (Mohammed and Kamariah, 2014). According to Po-Yuhan *et al* (2015) a business that cannot innovate will wither. Hence, firms and entrepreneurs should focus on innovation as strategic instrument for achieving success given the intense market competition resulting from globalization. Also, Hyde (2013) and Ohia (2020), declared that to attain success, entrepreneurs should persistently innovate owing to the fact that the world is indeed too dynamic for any organization that is succeeding today to do nothing and expect the continuity of the success tomorrow. Entrepreneur's in countries such as America, Britain, China, to mention a few have recorded much success due to constant innovations in line with the changing environment resulting to the overall development and growth of those countries. In Africa and Nigeria in particular, most entrepreneurs of manufacturing small and medium firms also achieve successes in one way or the other using innovative ideas while others crave to survive the environment owing to lack of innovative strategies in line with the changing environment such as competition, government policies, change in technology, change in customers taste among others. In view of this, most of such entrepreneurs find it difficult to live long in business (Ohia, 2020).

Rasha, and Mark (2016) asserts that in a world of changing needs and demands, innovation is regarded as an important element for competition and a major factor contributing to firm growth and development. It is an important vehicle for small firms and those encompass it will excel in the competitive business environment and those who do not embrace it will not survive and succeed. According to Howard (2022), business innovation is the act of introducing something new to a company whether it's a new product, a new market strategy, a new method, and so on in order to reinvigorate the company and promote new value. In addition, innovation is also refers to the ability of an entrepreneur to create new product, new production process and techniques, procedures, new management and marketing practices, policies and strategies or improve, modify the existing ones in order to create demand, reduce cost and ensure efficiency to achieve success. Schumpeter classified innovation in to five types of activities as evidenced in (Ukpabio *et al.*, 2019) as product innovation, process innovation, management or organizational innovation, marketing innovation and the creation of new source of supply. Though, many authors have advanced their classification of innovation into various types. This study has adopted product, process, management and marketing innovations, this is because some authors have argued that these four dimensions of innovations are more popular and applicable to the success of entrepreneurs in manufacturing small and medium firms and the overall performance of companies since they have the capacity to improve wealth and expand entrepreneurs market (Muhammad *et al.*, 2022; Sidik, 2019).

Product innovation is the introduction of new product or service that meets consumer needs, changing taste and fierce market competition, attract more profit. It is about improving quality, quantity and rebranding of product for market attractiveness, it has the ability to improve capital,

income, machinery and increase the number of customers, sales and more number of manufacturing and medium firms branches (business units) while process innovation is the implementation of a new or significantly improved production or delivery method (Sidik, 2019). It also includes changes in manufacturing techniques, equipment and software in order to decrease unit cost of production (Njagi, 2016). It has the capacity to improve the capital, income and machinery as well as expanding the market of entrepreneurs in manufacturing small and medium firms by enhancing product line, increase in number of customers, business unit, sales and overall performance of the firm (Muhammad *et al.*, 2022).

According to Po-Yu and Sang-Bing (2015) management innovation also known organizational innovation is the innovation which is practiced on the operation and defined it as the introduction and implementation of new methods of management with the goal of the reduction in transaction costs. It is about deploying new management strategies, approaches, policies, practices, to enhance efficiency, effectiveness and competitiveness. It plays a great role in improving the wealth of entrepreneurs by increasing their capital, income and acquisition of effective machinery and expanding their market by well of increasing product lines, more branches and customers. Marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing (OECD Oslo Manual, 2005). In the words of Muhammad *et al.*, (2022) marketing innovations target at addressing customer needs better, opening up new markets, or newly positioning a firm's product on the market with the intention of increasing firm's sales, customers, more units as well as improving the capital and income (Muhammad *et al.*, 2022). Marketing innovations is also related to pricing strategies, product package design properties, and product placement and promotion activities along the lines of four P's of marketing.

Entrepreneurial success as opined by Andrew (2018), referred to a high financial yield or profit, improve personal funds, market position, firm's growth in terms of market expansion, and attainment of stakeholders' objectives. In line with Richard *et al.*, (2009) entrepreneurial success indicators are those factors that signify the achievement of entrepreneurs and their sustainable operation which are financial and non-financial related to survival, entrepreneurial profit, high sales, employees and customer satisfaction, market share improved personal wealth. This study therefore, limits its self to improved personal wealth also called personal fund and market expansion as entrepreneurial success measures according to (Andrew 2018); Martins and Mariola (2010) since both are good, popular, and strong measures of success of entrepreneurs' activities in manufacturing firms.

Improved personal wealth in line with (Alan, 2020) refers to entrepreneurial success links to increased personal riches, capital, money creation, machinery of an entrepreneur in his business through the introduction of new changes in product, process, management practices and new marketing strategies in the face of environmental changes. Mika (2020) declared that market expansion means increase in size or business units, number of branches, sales and customers as well as product line which also result to more number of employees of the firm. He argues that entrepreneurs must access, mobilize and deploy resources such as innovation before they can achieve physical expansion. Furthermore, manufacturing firms refers to industries concerned with transformation, changing of raw materials,

processing and making of new goods or in value addition to existing goods, which the final products can either be sold as finished product or be used as an intermediate product for further processing of other product (Njagi, 2014).

This study focused on entrepreneurs in manufacturing Small and Medium Firms in North-Central Nigeria. The choice of manufacturing firms is credence to their strategic importance to economic growth and development in terms of job creation, income generation, poverty reduction, and improve security for greater industrialization, as well as their sensitivity and volatility nature to the general competitive environment. Also, the geographical spread of these small and medium size firms is another reason for their choice. While the choice of North-Central Nigeria is simply because there are so many evidences of collapse of businesses and some even folding up in the midst of some struggling to survive. The entrepreneurs in this sector therefore need constant innovation as an instrument to be able to succeed and remain resilience in order to contribute to global and national economy. Owing to the importance of this topic to developing economies, the researcher has chosen Nigeria as the study area to examine innovation and entrepreneurial success of manufacturing Small and Medium firms in North-Central Nigeria with special attention to product, process, management and marketing innovations in relation to improved personal wealth and market expansion as entrepreneurial success.

1.2 Statement of the Problem

Innovation is often necessary for any entrepreneurs to attend success in a dynamic business environment in a developing economy like the North-Central Nigeria. For any manufacturing Small and Medium Firms entrepreneurs to succeed the current dynamic environment like Nigeria, North-Central in particular, there is need for these entrepreneurs in Small and Medium Firms to introduce innovation in their product, process, management, and market respectively. Sailed to inject new ideas into the existing modus operandis they started their business activities? Or is it that the owners of the Small and Medium Firms lack proper knowledge on innovation in their business activities?

These and very many rhetoric questions called for the study of entrepreneurial success of manufacturing Small and Medium Firms in North Central Nigeria. Some of these Small and Medium Firms entrepreneurs struggle to survive at startup stage before even the growth stage of their life cycle. Rhetorically one may ask why some number of manufacturing Small and Medium Firms entrepreneurs perform well and are succeeding, so many of them fail the first two to five years of their life circle or are struggling to survive (Horton, 2022).

Rhetorically, one begins to wonder why these trend. Does it mean that some of these entrepreneurs, the owners/ managers of the manufacturing Small and Medium Firms are not knowledgeable about innovation or are they too rigid and dogmatic in their carrying out of business activities they failed to introduce new methods, new ideas and continue to enhance a success in businesses? Answer to these and many other rhetoric questions prompted the study of this work titled, “innovation and entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria”.

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This study is set to examine the effect of innovation on entrepreneurial success in manufacturing Small and Medium Firms (SMEs) in North-Central Nigeria. The findings of this study will add to the existing knowledge that may facilitate the understanding of innovations and its relevance to entrepreneurial success in the Nigerian context, particularly in North-Central Nigeria. The research will provide a platform for academic contributions from scholars and researchers as a reference document for future research. The knowledge to be gained from this study will enable small and medium manufacturing entrepreneurs to understand and pay much attention or focus on how innovation can lead to their success. Also, this study will be significant as its outcomes will clearly spell out the dimensions and roles of innovation and how entrepreneurs can make use of them from time to time to achieve success inform of business sustainability and market expansion in a competitive environment.

1.3 Objectives of the Study

The main objective of this study is to examine the effect of innovation on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria. Specific objectives are to:

- i. Examine the extent of the effect of Product Innovations on entrepreneurial success of manufacturing SMFs in North-Central Nigeria.
- ii. Assess the extent of the effect of Process Innovation on entrepreneurial success of manufacturing SMFs in North-Central Nigeria.
- iii. Examine the extent of the effect of Management Innovation on entrepreneurial success of manufacturing SMFs in North-Central Nigeria.
- iv. To determine the extent of the effect of Marketing Innovation on entrepreneurial success of Manufacturing SMFs in North-Central Nigeria.

2.0 LITERATURE REVIEW

This section explores the theoretical framework, conceptual framework, review of related empirical studies and summary of literature reviewed.

2.1 Theoretical Framework

A good number of theories of entrepreneurship innovation and success exist but this study will be anchored on the Joseph Schumpeter's Theory of Innovation supported by, Frank Knight Theory of Innovation, Risk. The choice of these theories among many other theories of innovation is credence to its relatedness to the study topic in explaining innovation dimensions and entrepreneurial success as constructs in the independent and dependent variables. Though, this study considers most relevant the Schumpeterian theory since it is the originator of entrepreneurship innovation and its relationship with the study.

The Innovation Theory proposed by Schumpeter (1934) who believed that an entrepreneur can improve wealth, earn economic profits and sustain his business by introducing successful innovations. In other words, innovation theory posits that the main function of an entrepreneur is to introduce innovations and improve income, profit in the form of reward is given for his performance. According to Schumpeter, refers to any new policy that an entrepreneur undertakes to reduce the overall cost of production or increase the demand for his products. According to Schumpeter, as cited in Ottih (2014), innovation can be classified into two categories; the first category includes all those activities which reduce the overall cost of production such as the introduction of a new method or technique of production, the introduction of new machinery, innovative methods of organizing the industry, etc. The second category of innovation includes all such activities which increase the demand for a product. Such as the introduction of a new commodity or new quality goods, the emergence or opening of a new market, finding new sources of raw material, a new variety or a design of the product, etc.

Schumpeter's theory nevertheless suffers many criticisms Ottih (2014), Dedekum and Akpor- Robaro (2015) pointed out that Schumpeter's theory is purported to have validity only in capitalist economies prior to the rise of giant corporations. Also, the theory has only limited applicability in less developed country. Furthermore, this theory cannot be tested empirically because the person's performing entrepreneurial functions cannot be identified. Schumpeter has also not clearly stated about the supply of entrepreneurs. Though other theories used in this study are all relevant to this work. However, innovation theory by Schumpeter is considered most relevance because owners and managers of business will understand how product, process, management and marketing innovations are instrumental to their success in the management of SMFs in Nigeria. the theory is still relevant to the study because manufacturing entrepreneurs in small and medium firms in Nigeria and underdeveloped countries can achieve personal wealth and market expansion of their firms through increase in sales, number of product, customers,, business braches, creation of new quality products or improving on existing ones, as well introducing new process or techniques, procedures, management policies and marketing methods that enhances productivity and reduces cost (Gayor, 2022).

The theory of Risk and Uncertainty proposed by Knight (1921), was the believed that, profit increased personal fund as a reward and success of entrepreneurs for uncertainty-bearing, not to

risk bearing. Knight had made a clear distinction between the risk and uncertainty. The risk can be classified as a calculable and non-calculable risk as quoted by (Patrick and Okwoli, 2019). The calculable risks are those whose probability of occurrence can be anticipated through a statistical data. Such as risks due to the fire, theft, or accident are calculable and hence can be insured in exchange for a premium. Such amount of premium can be added to the total cost of production. While the non-calculable risks are those whose probability of occurrence cannot be determined. Such as the strategies of a competitor cannot be accurately assessed as well as the cost of eliminating the completion cannot be precisely calculated. Thus, the risk element of such events is not insurable and can post danger to the success of an entrepreneur and his business.

This incalculable area of risk is the uncertainty. Due to the uncertainty of events, innovation and decision-making becomes a crucial function of an entrepreneur or manager to succeed. If innovation and decisions prove to be correct by the subsequent events, an entrepreneur sustains his business operation and also make profit to enhance personal income and vice-versa. Thus, the Knight's theory is based on the premise that profit arises out of the decisions made and innovation under the conditions of uncertainty. Knight believes that success might arise out of the innovative decisions made concerning the state of the market, such as decisions with respect to increasing the degree of monopoly in the market, decisions taken to introduce new product, changes to existing product and technique, to have success in a competitive environment. The major criticism of the Knight's theory is that, the total success of an entrepreneur cannot be completely attributed to uncertainty alone. There are several functions that also contribute to the total success such as innovation, bargaining, coordination of business activities, etc (Gilbert, 2018). Despite the shortcomings of the theory, it is still relevant to this study and entrepreneurs in manufacturing small and medium firms in Nigeria in taking strategic, innovative and investment decisions in dynamic business environment to achieve success (Gilbert, 2018).

2.2 Conceptual Framework

2.2.1 Concept of Innovation

Kamaruddeen *et al.*, (2010) posit that innovation originated from the Latin word "innovare" which means to modify. They considered innovation to be the capacity of entrepreneurs to create new processes, products, new organization, and new market to meet the demands of the customers. Kogabayev and Maziliauskas (2017) declare that Innovation refers to the generation of a new idea and its implementation into a new product, process or service, leading to the dynamic growth of the national economy and the increase in employment as well as creation of pure profit for the innovative business enterprise. Innovation is never a one-time phenomenon, but a long and cumulative process of a great number of management decision-making processes, ranging from the phase of generation of a new idea to its implementation phase (Kogabayev and Maziliauskas, 2017).

2.2.2 Dimensions of Innovation

Vyas (2009) asserts that manifestations of innovation proposed by Schumpeter are: creation of new products, new industrial process, new market opening, new raw material sources and new form of organization. Similarly, Murat (2013) classifies innovation into four types: product innovation, process innovation, management innovation and marketing innovation. This shows

that they are many dimensions of innovation by different author. However, this current study is however benchmarking the dimensions of innovation by Murat for the purpose of research convenience and scope management.

i. Product Innovation: This can be considered as any good or service that is perceived by an individual or a firm as new (Ukpabia, 2019). Dorin (2018), product innovation is the one that allows a better product to be offer than the ones currently on the market, in the sense that it offers more functions or performs better. Product innovation refers to the development of goods or services with characteristics or intentions of use that differ significantly from previous products made by the enterprise (Olaru, 2016).

ii. Process innovation: According to Ukpabio *et al.*, (2019) innovation can be defined as changes in the ways of producing or developing products, including new logistics, new raw material, new production lines, new production processes/methods, and new technology new processes basically rest on the use of new technologies to increase the efficiency and quality of production. For Ohia *et al.*, (2020) process innovation entails the implementation of new or improved production procedures or adoption of new tools, technology, or knowledge in producing a product. Hari *et al.*, (2020) stated that, process innovation relates with the improvement in or generation of tools and the expansion of operations.

iii. Management Innovation: Management innovation also known as Management Innovation (MI) is the introduction of a new structure, process, system, program, or practice in an organization or its units (Deepa (2015). Po-Yuet *al.*, (2015) management innovation is a derived theory of the innovation theory. Stata (1989), was the first scholar to distinguish innovation from the management innovation, market innovation, and technology innovation, and he argued the issue that enterprises need to solve should include internal collaborative process, cost control of development, and individual management.

iv. Marketing Innovation According to Oslo (2023) Marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. For Halpern (2017), market innovation enhances sales by increasing product demand that ultimately reap higher profits.

2.2.3. Concept of Entrepreneurial Success

Pablo, Anna and Anna, (2018), entrepreneurial success has been defined in different ways. The easiest definition is through tangible elements such as revenue or a firm's market expansion, personal wealth creation, profitability, productivity, turnover. The entrepreneurial successes are the life blood to businesses around the world. Organizations therefore strive to meet these regulations and standards in order to remain compliant, and to increase the efficiency and credibility of the business. This is evident from the fact that every activity carried out by the businesses revolve around learning and fulfilling the needs of the customers (Choi and Hwang, 2015).

2.2.4 Measures of Entrepreneurial Success

Andrew (2018) considers Entrepreneurial success measures as: Money, customer satisfaction, company growth or market expansion, employee satisfaction, and market position. This study shall limit it investigation on improved personal wealth and market expansion as entrepreneurial success measures in line with product and process innovation. 0The choice of improved personal wealth

and market expansion is based on its popularity on the measurement of the entrepreneurial success and effective scope management.

i. Improved personal wealth: Refers to entrepreneurial success links to increased personal riches, capital, money creation, and machinery of an entrepreneur in his business through the introduction of new changes in product, process, management practices and new marketing strategies in the face of environmental changes (Alan, 2020). Entrepreneurs can improved to great personal wealth through innovative ideas as their successes as confirmed by Cagetti and De Nardi, 2016).

ii. Market Expansion; According to Hofstrand, (2019), market expansion means the physical growth in size and product quantity, increase in the number of branches and customers as well as product line which also result to more number of employees of the firm. Mika (2020) argues that entrepreneurs must access, mobilize and deploy resources such as innovation before they can achieve physical expansion.

2.3 Review of Related Empirical Studies

For the purpose of this study, a general review system will be adopted in line with the objectives. Azamela, Tang, Owusu, Egala and Bruce (2022) researched the impact of institutional creativity and innovation capability on management performance of public sector in Ghana. Partial least squares structural equation model was employed to estimate the survey responses of 195 respondents from fifty public sector institutions. The empirical analysis confirms that management creativity has a positive and significant impact on management performance, and inter-agency collaboration and institutional leadership contribute positively to institutional creativity and innovation capacity. However, stakeholder pressure negatively impacts both institutional creativity and innovation performance. This study examined management innovation and performance in public sector making use of 195 respondents in 50 public sector institutions in Ghana. This recent study intends to bridge the gap by studying innovation and entrepreneurial success in private manufacturing firms from the six (6) states of North-Central Nigeria with survey responses of 393 small and medium manufacturing business owners.

Juliana *et al.*, (2021) investigated the relationship between creativity and innovation on entrepreneurship development in Nigeria. A survey design was adopted for the study. A valid sample of 257 impacted the study using Yemane sample size determination formulae. The research employed the Ordinary Least Square method and ANOVA Test for data analysis. In this study, hypotheses H2 and H5 were accepted due to their significant and mutual relationship on the measured variable whereas H1, H3, and H4 were not accepted owing to their insignificant impact on the independent variable (entrepreneurship development). The most significant variables in this research are technological advancement and strategy. The findings of this research are quite different from the influential factors (Ali Al Qudah, 2018). The study established a strong relationship between creative thinking and innovative ability, as well as process and technological advancement. This study did not mention the exact research survey design used for the study, and used ANOVA test for analysis of data collected. The different exist that this recent study is specific on cross-sectional survey research design for the study and will employ the use of both ANOVA and multiple regressions for analysis with 393 samples from the total population in order to close the gap.

Olayemi (2020), examined innovative behaviour and firm's performance in the Nigerian manufacturing industry. The population of the study was the staff in the selected company and questionnaire was distributed on the company's sample. The study employed the univariate analysis of variance (ANOVA) to ascertain the statistical significance and the level to which innovativeness give rise to variation in firm's performance in the selected organization. It was established that there is a relationship between innovative behavior and firms' performance in Nigerian manufacturing industries. The study concluded that innovation has significant positive effect on firms' performance. This study emphasized firms performance. The different exist that present study examines entrepreneurial success with special attention in private small manufacturing and medium firms (SMFs) to bridge the gap.

Taiye, *et al.*, (2020) analyzed marketing capability as a moderator between innovation and entrepreneurial success in Nigeria. A survey of one hundred and twenty three (123) respondents from dessert and confectionery firm provide support for the study. The data was analysed using the hierarchical regression. The results of the analysis shows that the Schumpeterian forms of innovation significantly affect entrepreneurial success of an organization and marketing capabilities moderates the relationship between innovation and entrepreneurial success. This study of Taiye, *et al.*, (2020) made use of hierarchical regression in the analysis of data collected from one hundred and twenty three (123) respondents which has created the gap. In attempt to cover the gap, the current study makes use of multiple regression and correlation to ascertain the relationship between variables and their effect to entrepreneurial success.

Lura and Besnik (2020) investigated innovation types and sales growth in small firms: evidence from Kosovo. A total of 278 samples were collected from SMEs in the manufacturing, service and trade industries throughout Kosovo. The data were analysed using a logistic regression analysis. The findings confirm the hypotheses that marketing innovation is positively associated with firm growth. Other innovation attributes have resulted with non-significance value. The findings in this study can be useful for theoretical discussion, as well as for policy formulation related to introduction of innovation and SMEs development considering that innovation is critical factor in today's market and competition. This study has created a gap by making use of logistic regression analysis of data gathered from 278 samples of SMEs in the manufacturing, service and trade industries in Kosovo. In order to close the gap, this recent study employed linear multiple regression with the aid of SPSS for the analysis of data with 393 samples.

Anh, *et al.*, (2019), the lasting effects of innovation on firm profitability: panel evidence from a transitional economy in Vietnam. Using a unique panel dataset for the period 2005–2015, the results show that innovators achieve higher profit in comparison with non-innovating firms. The positive effects of innovation on firm profitability are observed not only in the short term but also in the longer term. The benefits of innovation for firm profitability can be seen in higher export probability, better productivity, better access to formal credit, and the ability to secure government support, but only after innovation. The study observed that innovation has positive significant effect on profitability. This study was conducted in service industries. The present study is to be carried in manufacturing small and medium firms (SMFs).

Robert and Solomon (2019) studied marketing and entrepreneurial success in emerging markets: the nexus in Ghana. Quantitative data were obtained from 113 micro, small and medium scale enterprises (SME) into services, manufacturing and agriculture selected conveniently within the

Tema metropolis, a harbour city in Ghana; however, purposive sampling was used to choose owners and managers as respondents pre-occupied with marketing and entrepreneurial roles. Research findings implies that blending marketing with entrepreneurial initiatives has the propensity to accelerate success for wealth and job creation for national development especially in emerging markets where poverty and under development abounds. The study was limited to opinion of SME managers and owners of a harbour city. This study was conducted in manufacturing, service and agricultural SMEs in Ghana to ascertain the effect of marketing innovation strategies and the performance of Ghanaians SMEs in the aforementioned sectors. In order to close the gap, the current study shall test the effect of marketing innovation on private manufacturing entrepreneurs in SMFs with samples from business owners, managers/head of finance from North-Central Nigeria.

Ukpabio, Oyebisi, and Siyanbola (2019), examined the effects of innovation on performance of manufacturing SMEs in Nigeria: an empirical study. A total of 305 samples were obtained from SMEs in the textile/leather/apparel and footwear subsector; wood/furniture and woodworks subsector; and domestic/industrial plastic and rubber subsector in Southwestern Nigeria. Data collected was analyzed using correlation analysis and hierarchical regression analysis. The correlation result shows that all dimensions of innovation (product, process, market, and management) had significant positive relationship with firm performance including the control variable 'firm size'. However, the regression result confirmed that process innovation and management innovation influences SMEs performance significantly. The result from this study indicates that all dimensions of innovation, and specifically process and management innovation are critical elements for the enhancing the performance of SMEs in Nigeria. This study focus on effect of innovation on performance of manufacturing SMEs in Nigeria, correlation analysis and hierarchical regression analysis techniques were used. This current study intends to use correlation and multiple linear regressions as tools for data analysis with hypotheses to be tested at 0.05% level of significant.

Hari, Fredi, and Eneng (2019), this study examined the relationship between process innovation, market innovation and firm financial performance of Indonesian pharmaceutical firms. Data were collected from managers of pharmaceutical firms in Indonesia by using survey questionnaire. PLS statistical software was employed to analyze the data. The findings of the study show that innovation capabilities are capable of influencing the performance of firms. The study examines innovation and financial success in pharmaceutical firms which has created a gap that need to be filled. This current study examines non-financial success and performance to cover more aspect of manufacturing firms not just pharmaceutical to assess the effect of marketing innovation on entrepreneurial success.

Nguyen, Nguyen, Phung and Nguyen (2019) examined the impact of innovation on the entrepreneurial performance and corporate social responsibility of manufacturing firms in Vietnamese. This study examining the individual effects of product, process and management innovations, and then their interactions with external collaboration, on firm performance and Corporate Social Responsibility (CSR) from 2011-2013. The study used secondary information and analyzed using content analysis method. Research findings suggest that process, product and organization innovations are beneficial to firm performance in terms of market share, but not return on total assets. It is therefore established that product, process and management innovation has significant effect on firm performance and corporate social responsibility of Vietnamese

manufacturing firms. The study established a positive relationship between management innovation and entrepreneurial firm performance. This current study is been conducted with the intention to investigate if the relationship still exists by extending the study to cover 2022 and addition to the three variables will include marketing innovation to bridge the gap.

3.0 METHODOLOGY

This study adopted cross-sectional survey design and was situated in Manufacturing SMFs in North-Central Nigeria with a target population of 393 were drawn from manufacturing small and medium firm at the capitals of the six (6) states in North-Central using census sampling technique with the aid of questionnaire as a data collection instrument. The average validity index of .869 and that of reliability stood at 0.889. The model specification will be multiple regressions and be based on the hypotheses of the study and expressed in econometric form as presented below:

$$Es = f(INV) \dots \dots \dots (i)$$

$$Es = f(PRDI, PRCI, MGTI, MKTI) \dots \dots \dots (ii)$$

$$Es = \beta_0 + \beta_1 PRDI + \beta_2 PRCI + \beta_3 MGTI + \beta_4 MKTI + et \dots \dots \dots (iii)$$

Where:

Es = Entrepreneurial Success (Dependent Variable: improved personal wealth and market expansion)

I = Innovation (Independent Variable: product innovation, process innovation, management innovation and marketing innovation)

PRDI = Product Innovation

PRCI = Process Innovation

MGTI = Management Innovation

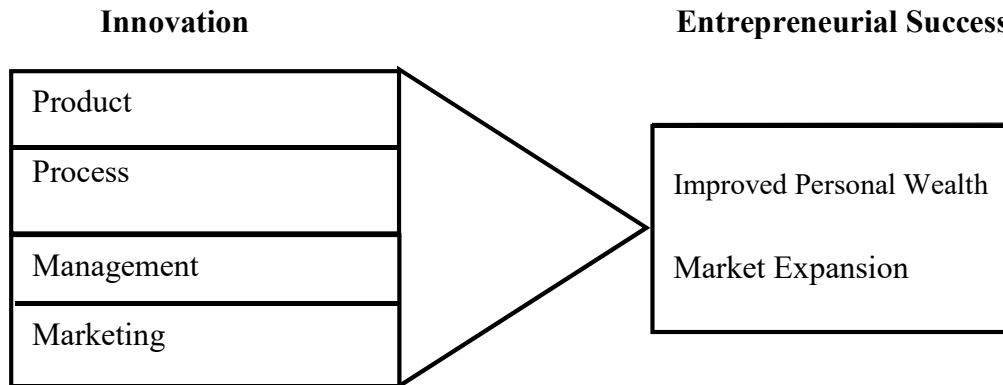
MKTI = Marketing Innovation

β_0 = Y intersect on regression line (constant)

$\beta_1 - - - - \beta_4$ = Is the coefficient (parameter measures) of PRDI, PRCI, MGTI and MKTI.

et = Error Term

3.9.1 Variable Specification



Source: Researcher’s Compilation (2022)

Correlation was used to analyze the relationship between the dependent and independent variables using factors analysis, while regression were used to examine the effect of innovation on entrepreneurial success in manufacturing small and medium firms in North-Central Nigeria. Multiple regression analysis will be used with the aid of computer based statistical package for social science (SPSS, Version 23.0).

4.0 RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The descriptive measures used in this study included the minimum, maximum, mean and standard deviation.

Table 4.1: Descriptive Statistics of the Study

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
PRDI	393	1.00	5.00	4.07	.811
PRCI	393	1.00	5.00	4.09	.954
MGTI	393	1.00	5.00	4.12	.740
MKTI	393	1.00	5.00	4.13	.737
IPW	393	1.00	5.00	4.06	.748
MEXP	393	1.00	5.00	4.03	.887

Source: Researcher’s Computation from SPSS output, 2023

Table 4.1 displays the descriptive statistics highlighting the means, minimum, maximum, and standard deviation of the data. It reveals that the majority of the respondents generally agreed as depicted by the mean score of 4.07 (representing 81.1%).

Table 4.2: Test for Multicollinearity

Model	Collinearity Statistics	
	Tolerance	VIF
PRDI	.781	1.281
PRCI	.794	1.252
MGTI	.764	1.309
MKTI	.866	1.154

Source: Researcher’s Computation from SPSS output, 2023

This VIF result further confirms the result of the correlation matrix that there are no problems of multicollinearity amongst the independent variables used in the models because the values are less than 5.

4.1.5 Regression Analysis

This sub-section presents the results of regression analysis of the model used in the study. The regression model explains the degree of effect of the predictor variables on the dependent variable. The result is present in model summary, analysis of variance and coefficients tables. Model summary was used to determine the extent to which the independent variables determine the dependent variable. The study established model significance by conducting an ANOVA test to find out whether the model was suitable for further statistical analysis. This was done by computing F statistics and its corresponding P-values. The study used the criteria for comparing the P-values of F statistics with a significance value of 0.05. If the P-value of F statistics was less than 0.05, the study concluded the model is significant and can be used for further statistical analyses and vice versa. This was followed by the computation of coefficients of predictor variables. Multiple regression analysis was conducted at a 95 percent confidence level ($\alpha = 0.05$).

Table 4.3: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.974	.949	.722	.739	1.675

- a. Predictors: (Constant), MKTI, PRCI, PRDI, MGTI
- b. Dependent Variable: Entrepreneurial Success

Source: Researcher’s Computation from SPSS Output, 2023.

Table 4.3 shows the result of regression model summary. The model summary shows that the R Square = 0.929 which indicates that innovation strategies (product innovation, process innovation, marketing innovation and management innovation) explained 92.9% of the variation in entrepreneurial success. The remaining 8.1% was explained by other variables other than the ones in the model. The result implies that innovation dimensions are significant predictor variables of entrepreneurial success. The value of R= 0.974 an $R^2 = .949$ also indicates that there is a strong positive correlation between the variables of the study.

Table 4.4: Analysis of Variance (ANOVA)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	104.014	4	26.003	47.622	.000
Residual	211.864	388	.546		
Total	315.878	392			

- a. Dependent Variable: Entrepreneurial Success
 - b. Predictors: (Constant), MKTI, PRCI, PRDI, MGTI
- Source:** Researcher’s Computation from SPSS Output, 2023.

Table 4.4 shows the result of the Analysis of Variance (ANOVA) which indicates that $F(4, 388) = 26.003$ (which is greater than the critical F value of 2.42) and $p\text{-value} = 0.000$ (which was less than 0.05.) The study therefore shows that the model had goodness of fit. The result further implies that the combined dimensions of innovation (product, process, management and marketing) significantly explained the entrepreneurial success of manufacturing companies in North Central Nigeria and the model was statistically significant and adequate in predicting entrepreneurial success.

Table 4.5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	.414	.282		1.471	.142
PRDI	.128	.062	.125	2.537	.022
PRCI	.237	.044	.252	5.423	.000
MGTI	.180	.058	.148	3.118	.002
MKTI	.439	.054	.361	8.071	.000

- a. Dependent Variable: Entrepreneurial Success
- Source:** Researcher’s Computation from SPSS Output, 2023

The result in Table 4.5 shows the regression coefficient, which explained the effect of dimensions of innovation on entrepreneurial success. The Beta coefficients showed that all the independent variables had a significant effect on the dependent variable (entrepreneurial success). The result indicates that product innovation had $\beta=0.125$, $P=0.022$; process innovation $\beta=0.252$, $P=0.000$; management innovation had $\beta 0.148$, $P=0.002$ and for marketing innovation $\beta = 0.361$ $P=0.000$. The result shows that if all the variables (product innovation, process innovation, management innovation and marketing innovation) are held constant entrepreneurial success would be 0.414. The results also show that if all the other factors were held constant a unit increase in product innovation would increase entrepreneurial success by 0.128 units. Also, a unit change in process innovation holding other factors constant would increase entrepreneurial success by 0.237 units. The result further indicated that a unit increase in management innovation holding other factors constant would increase entrepreneurial success by 0.180 units while a unit change in marketing innovation would results to entrepreneurial success by 0.439 units. Based on the magnitude of each variable, in predicting entrepreneurial success, the study found that marketing innovation had the highest effect on entrepreneurial success of manufacturing firms in North Central Nigeria.

4.3 Test of Hypotheses / Discussion of Research Findings

This subsection focus on research questions earlier stated and results from hypotheses tested in line with the objectives. Hypothesis one and research question one, the study sought to examine the effect of product innovation on entrepreneurial success of manufacturing small and medium firms in North Central Nigeria. This study testes the assertion to verify the claim, the result of multiple regress analysis in table 20 indicate that product innovation has $\beta_i = 0.125, t = 2537, p = 0.002$. Since the p -value was less than the significant level of 0.05, the study rejected

H_0_1 signifying that product innovation has a significant effect on entrepreneurial success of Manufacturing Small and Medium Firms in North Central Nigeria. The result is of hypothesis one is in line with Ohia, Gift and Lebura (2020) examined the relationship between product innovation and competitive advantage of aluminum manufacturing firms in Rivers State, Nigeria. The findings revealed that there is a significant relationship between product innovation and competitive advantage of aluminum manufacturing firms in Rivers State, Nigeria.

Hypothesis two and research question two, sought to examine the effect of process innovation on entrepreneurial success of manufacturing small and medium firms in North Central Nigeria. The results of multiple regression in Table 20, showed that process innovation had $\beta_2=0.252$, $t=5.423$, $p=0.000$. Since $\beta_2 \neq 0$ and p was less than the significant level of 0.05, the study rejected H_0_2 implying that process innovation has a significant effect on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria. The result of the test in hypotheses two is in consistent with Hari, Fredi, and Eneng (2019), this study examined the relationship between process innovation, market innovation and firm financial performance of Indonesian pharmaceutical firms. The findings of the study showed that innovation capabilities are capable of influencing the performance of firms. The study therefore concluded that pharmaceutical firms in Indonesian to succeed by increasing their financial performance must constantly change and improve on their production and distribution processes in other to ensure efficiency through effective distribution and cost reduction.

Hypothesis Three and research question three stated that management innovation has no significant effect on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria. The critical value of t-statistics is ± 1.96 at 95% and the result shows that $\beta_3 = 0.148$, $t=3.118$, $p=.002 < .05$, indicating that a positive and significant effect of management innovation on entrepreneurial success. Therefore, the null hypothesis (H_0_3) was rejected and we conclude that management innovation has a significant effect on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria. The result of this study tested in hypotheses three in agreement with Azamela, Tang, Owusu, Egala and Bruce (2022) who researched on the impact of institutional creativity and innovation capability on performance of manufacturing sector in Ghana. The study findings indicate that management creativity has a positive and significant impact on firms' performance. The study therefore concluded that for manufacturing firms in Ghana to perform and succeed must ensure constant innovation in their business management principles and strategies. The tested result from hypotheses three is also in consonant with Teresa, Wojciech and Martyna (2017) who examined Management innovation, pro-innovation management culture and enterprise performance in Poland.

Hypothesis four and research question four, claims that marketing innovation has no significant effect on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria. The results of multiple regression in Table 20, showed that marketing innovation had $\beta_4=0.361$, $t=8.071$, $p=0.000$ Since $\beta_4 \neq 0$ and p was less than the significant level of 0.05, the study rejected H_0_4 implying that marketing innovation has a significant effect on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria. This result is in agreement with the following; Robert and Solomon (2019) who studied marketing and entrepreneurial success in emerging markets: the nexus in Ghana manufacturing SMEs. Research findings implies that blending marketing with entrepreneurial initiatives has the propensity to accelerate success for wealth and job creation for national development especially in emerging markets where poverty

and under development abounds. The study actually concluded that there was an establish relationship between marketing innovation an entrepreneurial success of manufacturing SMEs in Ghana. Chatchai and Phaprukbaramee (2017) analyzed marketing creativity orientation and marketing profitability: an empirical study of software businesses in Thailand. The study findings indicate that product innovation (PI) and new product development (NPD) have significant positive impacts on marketing profitability (MP). It is concluded that for software businesses in Thailand to achieve profitability they must encourage marketing innovation.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based on the findings of this study, the study concluded that innovative is a strong predictor of entrepreneurial success of Manufacturing Small and Medium Firms in North-Central Nigeria.

5.3 Recommendations

Based on this findings and conclusion drawn above, the following recommendations are made to help improve the situation in SMFs in North Central Nigeria.

Entrepreneurs/managers in manufacturing firms in Nigeria are encourage to be consistent in product innovation by adding more value to their existing product, improving constantly product quality generating more or additional uses of product and increasing the products line. In this way, more consumers requirements or desires will be met, more income, profit will be generated and entrepreneurs will have their firms grow, market expand, and improved their personal wealth with economic effect of more employment generation, increased national income, competitive advantage and improved gross domestic product (GDP) and general well-being.

Entrepreneurs in manufacturing firms in Nigeria and beyond should be dynamic by continuously checking their production process, procedures, techniques, and introducing new ones to replace the cumbersome, out-dated and costly process and procedures in response to the changing environment to succeed in the business. This can be done by updating and introducing new and modern production techniques procedure, machines in order to reduce cost, increase output, income and wealth of entrepreneurs, general growth and expansion of the business thereby contributing more to economic growth and development.

Entrepreneurs/managers in manufacturing small and medium firms in Nigeria should adopt more comprehensive management innovation also known as administrative innovation by introducing new changes such as structural design, improve decision making process, new form of communication channels or procedures, management policies and strategies relating human resource and financial management policies among others in line with the changes in the environment to achieve effectiveness, efficiency and the overall cost reduction, improve wealth, market expansion and general growth of small and medium firms.

Entrepreneurs in manufacturing small and medium firms in Nigeria and under-developed countries should ensure that their marketing policies and strategies are up to date in line with the environmental dynamisms. This can be done by introducing innovative ideas to bear on their

marketing management strategies such as changing their pricing policies, introduction of new packaging policies, improving their distribution and promotional strategies, new product development strategies so as to survive the competitive market environment, improve wealth, expand market and attain general growth through demand creation.

5.3 Contribution to Knowledge and Suggestions for Further Studies

The study, revealed that marketing innovation as a dimension of innovation with a beta coefficient of 0.361 has the greatest effect on entrepreneurial success of manufacturing Small and Medium Firms in North-Central Nigeria as against product innovation, process innovation, and management innovation with beta coefficient of 0.125, 0.252 and 0.148 respectively. This study investigates the effect of innovation on entrepreneurial success of manufacturing small and medium firms in North central Nigeria. There is need to conduct further studies on the following areas: Effect of innovation strategies on entrepreneurial success of manufacturing large scale industries in North Central Nigeria. This will help to understand if innovation affects the success of entrepreneurs in large scale manufacturing industries. Effect of innovation on the growth of services industries in Benue State with particular attention to banking sector. Similarly this will enable us to know if innovation affects the growth of service industry particularly banking sector. Finally, innovation and sustainability of hospitality industry in some selected states and Federal Capital Territory Abuja, North-Central Nigeria. In a similar vein, this will give us an understanding if hospital industry makes use of innovation to continue their business in the midst of competitors.

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