

Effect of Corporate Entrepreneurship on the Performance of Manufacturing Firms in North Central Nigeria

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Abstract

The manufacturing sector in Nigeria just as that of every other nation is supposed to be a driver of economic growth, employment generation and very importantly, an earner of foreign exchange for the economy. This study examined the effect of corporate entrepreneurship on the performance of manufacturing firms in North Central Nigeria. The population of this study comprises of 113 register manufacturing firms, the study employed the use of census survey and the data was collected using a well structure questionnaire. Partial Least Square Structural Equation Model (PLS-SEM) was utilized to evaluate the hypotheses that was put forth. The study found that innovativeness has positive and insignificant effect on performance of manufacturing firm in North Central Nigeria. Also it was revealed that that strategic renewal has positive and significant effect on performance of manufacturing firms in North central Nigeria. Based on the finding the study conclude that, although fostering innovation may hold potential for enhancing performance, the current impact is not strong enough to be reliably observed. This finding highlights a complex relationship where innovativeness may be beneficial, yet other factors could be overshadowing its effectiveness in driving measurable improvements. It is also concluded firms that prioritize strategic renewal are likely to experience substantial improvements in their overall performance, positioning themselves better to meet market demands and navigate industry challenges. Based on the fore going it is recommended that manufacturing firms should consider fostering a culture of innovation that encourages experimentation and flexibility through creating an environment where new ideas can flourish and be tested, manufacturing firms may unlock the full potential of their innovative capabilities, ultimately leading to improved performance in the long run.

Key words: Innovativeness; Strategic Renewal; Performance; Manufacturing Firms

Introduction

Globally, the manufacturing sector has been a major contributor to growth and development of many world economies. Globalisation has led to increasing competitive challenges that thus have created an imminent need for manufacturing firms to approach its continuous existence from a completely different perspective (Ahmad, 2012). However, the external and internal forces that manufacturing firms face are increasingly making them acknowledge that there exists no universal way of surviving and curtailing competition in an ever-evolving business environment.

In Nigeria, the situation has not been any different, as the manufacturing sector has been faced with enormous challenges. Oladimeji et al., (2019) Stated the challenges faced by the country's manufacturing firms which are multifaceted. Aside from the external challenges that stem from the government's complicating actions, which are

typically beyond the control of individual firms, the internal challenges have been a major factor contributing to the declining performance of these manufacturing firms. While the external factors imposed by the government often prove difficult for the firms to manage, the internal challenges within the organizations themselves have also played a significant role in the dwindling performance observed across the country's manufacturing sector. To this end, the manufacturing sector may not be able to contribute significantly to the Gross Domestic Product (GDP) of the nation given the mirage of challenges bedeviling the sector. However, Yunis et al., (2018) posited that manufacturing industry in the country holds vast untapped potential to drive growth and development across the nation. This potential stems from the large pool of human and intellectual capital available, as well as the abundance of natural resources within the country's borders. Despite the challenges the manufacturing sector has faced, these underlying strengths represent a significant opportunity for the industry to advance and contribute to the overall progress and prosperity of the country. With the right strategies and investments, the manufacturing industry can leverage its abundant human talent and natural resources to unlock new avenues for growth and development that will benefit the nation as a whole.

Corporate entrepreneurship encourages employees to design numerous techniques for new business lines, models or design strategies that will contribute to the growth of the company. It is important for companies to maintain competitive advantage or relevance in the market so as to attract investors. The dimensions of corporate entrepreneurship such as proactiveness, risk-taking, innovations and competitive aggressiveness. Daryani and Karimi (2017) presented six dimensions of corporate entrepreneurship as innovativeness, proactiveness, risk-taking, competitive aggressiveness, strategic renewal and management support. These dimensions are therefore adopted in this study to explore the effect of corporate entrepreneurship on performance in the manufacturing firms in North Central, Nigeria.

Statement of the Problem

The manufacturing sector in Nigeria just as that of every other nation is supposed to be a driver of economic growth, employment generation and very importantly, an earner of foreign exchange for the economy. However, despite numerous support such as ban on importation of certain commodities, provision of credits and tax incentives from successive governments, the overall performance of the sector has remained abysmal. This is supported by statistics released by the National Bureau of Statistics (NBS, 2023) which indicated that the sector's contribution 15.5% to the Gross Domestic Product (GDP) in 2021 which decreased to 10.13% at last quarter of 2022 from 10.13% in the first quarter of 2023 to 8.40% in the third quarter of 2023 implying a 17.24% Quarter-on-Quarter decline. in addition, the locally manufactured products have not been able

to compete favorably with their foreign counterparts as the latter has always been the preferred choice of consumers. In line with problem, the study stated the following objective which is to examine the effect of corporate entrepreneurship (innovativeness and strategic renewal) on the performance of manufacturing firms in North Central, Nigeria.

Literature Rivew

Corporate Entrepreneurship

Nnamdi, et al., (2018) define corporate entrepreneurship as a process through which individuals in an established business pursue entrepreneurial opportunities to innovate, without regard for the level and nature of currently available resources. Abosode, et al., (2018) look at corporate entrepreneurship as an emergent behavioral intentions or behaviors deviating from the customary way of doing business. Akinmulegun and Oluwole (2020) Corporate entrepreneurship refers to formal and informal activities aimed at creating new business in established companies through product and process innovations and market developments. These activities may take place at the corporate division (business), functional, or project level) unifying objective of improving a company's competitive position and financial performance. Corporate entrepreneurship also entails the strategic renewal of an existing business". Explaining further Eze (2018) and Brizek (2017) opines that corporate entrepreneurship is the process whereby an individual or group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within the organization.

Corporate entrepreneurship is defined as entrepreneurial orientation and activities in an established organization. It is an important dimension of wealth creation and economic development. It is described as entrepreneurship within an organization which refers to emergent behavioral intentions and organizational behaviors that lead a deviation from the traditional forms of doing business. Corporate entrepreneurship processes take place within an existing organization without thinking of the its size, and these processes do not only refer to creation of new business ventures but also to development of new products, services, technologies, managerial techniques, strategies and also competitive standing as innovative activities. Qualifications of corporate entrepreneurship comprise new business venturing, innovation of product/service and innovation of process, self-renewal, risk taking, proactiveness and competitive aggressiveness (Karacaoglu, *et al.*, 2018).

Corporate entrepreneurship (CE) can also be analyzed through the lens of resources and capabilities (Kellermanns, *et al.*, 2016). From this perspective, corporate entrepreneurship is defined as a capability of the firm, composed of a subset of interconnected capabilities or dimensions - proactiveness, innovativeness, self-renewal,

and new business venturing - that enable the firm to improve its performance (Turro, *et al.*, 2016). Moreover, both capabilities share a common theoretical origin in research on Schumpeterian economic theory, which examines the role of innovation in economic performance. developing entrepreneurial capability is a great strategy by which firms can acquire such characteristics, that is, a good way to revitalize existing organizations by making them more innovative (Kuratko & Morris, 2018).

Corporate entrepreneurship represents a unique form of entrepreneurial activity that takes place within the context of an established organization. Rather than starting a new business from scratch, corporate entrepreneurship involves the manifestation of entrepreneurial behaviors and intentions within the confines of an existing company. This entrepreneurial spirit can lead to a deviation from the organization's traditional, well-worn ways of operating, as employees are empowered to challenge the status quo and explore unconventional business approaches. Through corporate entrepreneurship, organizations harness the innovative mindset and risk-taking propensity of their workforce to uncover new opportunities, develop novel products or services, and potentially even disrupt their own established business model. This departure from the conventional methods of doing business represents a significant shift, as the organization actively embraces entrepreneurial principles to revitalize and transform itself from within. By cultivating an entrepreneurial culture and encouraging employees to think and act entrepreneurially, corporations can unlock new avenues for growth, adaptation, and long-term competitive advantage (Eze, 2018). This study adopted definition of corporate entrepreneurship by Karimi (2017) who presented six dimensions of corporate entrepreneurship as innovativeness, proactiveness, risk-taking, competitive aggressiveness, strategic renewal and management support. However, for the purpose of this study only two dimension was used for this study.

Innovativeness

Innovativeness is a core organizational characteristic that reflects a firm's inclination to embrace and promote new ideas, unique approaches, experimental mindsets, and creative processes. Companies that demonstrate a high degree of innovativeness actively encourage their employees to challenge conventional thinking, explore unconventional solutions, and pursue groundbreaking concepts that have the potential to yield innovative outcomes. This may manifest in the development of novel products or services, the implementation of cutting-edge technological processes, or the introduction of unique business models that disrupt the status quo. (Ibrahim, 2018 and Eze 2018). At the heart of organizational innovativeness lies a firm's ability to remain agile and responsive in the face of dynamic market conditions. Innovative companies are not merely passive observers of industry trends and customer needs; rather, they

actively monitor the market landscape, anticipate emerging opportunities, and swiftly adapt their capabilities to capitalize on these evolving circumstances (Eze & Fayose, 2018). Innovativeness also revises the firm's knowledge base, allowing it to develop new competitive approaches, which can be exploited in new foreign markets to achieve growth and profitability (Zahra & Garvis, 2017).

Innovativeness is the specific function of entrepreneurship. It is the means by which the entrepreneur either creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth (Medase 2020). It is about turning new ideas and imaginative ideas into reality. Effective use of this mental quality may produce the following outcomes: generating something completely new (this product may be rare, except in cases of high creativity), as well as consolidating or integrating a set of divergent and undifferentiated ideas in a new, unfamiliar way, finding new ideas for a product and finally, transferring existing and circulating ideas to other beneficiaries or new people (Medase 2020). Chaithanapat et al., (2022) underlined the importance of innovativeness and how it influences firm performance. The positive influence of organizational innovativeness on organizational effectiveness is greater among individuals who embraced improvements rapidly than among those who did not (Naveed et al., 2022). Innovativeness is the implementation of new and improved knowledge, ideas, methods, processes, tools, equipment and machinery which leads to new and better products, services and processes (Nwankwo & Ezeibe, 2021).

Innovativeness is a continuous process of exclusive research and exploration resulting in a new and unique product, process, market and organizational forms. Innovation is more like exploring the internal consistencies and capabilities of an organization and coming out with a unique and special result capable of capturing the target interest in a new way (Saka, 2021). Innovativeness is the process of creating new ideas and implementing them in practice. Innovations are new ideas in products, so the results are better. In company organizations, innovation takes two forms, namely product innovation, which produces new goods or services or improvements from existing ones and process innovation, which produces new ways of doing a process (Nurjaya et al 2021).

Innovativeness entails firms' commitment to the introduction of new products, process and market (Eze, 2017). It is essential for firms which seek to accelerate business performance to innovate to offer value to customers and to stand out from competitors (Yanadori & Cui, 2013). Meanwhile, Van de Ven (2017) defined innovativeness as the development and implementation of new ideas by people, who, overtime, engage in transactions with others within an institutional order. The process perspective on CE

opens up a multi-level angle. Entrepreneurial efforts are not activities independent of other internal and external company operations; they affect individuals, organizations and inter organizational system settings.

Strategic Renewal

Strategic renewal helps the organization build and develop a new type of relationship with some of its markets and with its competitors, by bringing about a radical change in the way of competition (Sultan & Othman, 2021). Any organization that wants to implement the knowledge integration model must gather the ability to strategically renew to provide new knowledge, which is the creation of new products and business models (Malkawi, 2016). Al-Shamimiri and Al-Mubarik (2019) define strategic renewal as “a rethinking of the company’s directions and the opportunities available to it”. On the other hand, Wali and Hamid (2021) define strategic renewal as a management philosophy based on investing the available capabilities in general, and the capabilities of human resources in particular, with the intent of exploring and exploiting opportunities by making modifications in structure, culture, and technology, in response to environmental changes, and to achieve the aspirations of the administration while Hussein (2016) defines strategic renewal as that process that includes changes in context, content, process, the ability to significantly influence the long-term expectations of the organization, and the recovery or replacement of the features or characteristics of the organization (capacities, structures, processes, and systems), providing a basis for growth or development in the future.

Schmitt et al (2018) see that strategic renewal is the process that describes the procedure that allows the organization to change its course by changing its intentions and strategic capabilities, while William et al (2017) defined strategic renewal is a continuous process of transforming the organization from one state to another instead of isolation. As for Binnes et al (2015) they defined strategic renewal as a rapid response to changing the business model in proportion to the market and finding innovative ways that add value to the customer. The researchers believe that the process of strategic renewal is the process of proactive change and change in the strategies followed in line with the expected environmental changes that ensure the survival and continuity of the organization.

Strategic renewal refers to the process that allows organizations to alter their path dependence by transforming their strategic intent and capabilities (Schmitt, *et al.*, 2018).

Strategic renewal research analyses how these organizations alter their path dependence by transforming their strategic intent and capabilities (Albert *et al.*, 2015). The recognition, formulation and execution of these transformation processes are central issues pertinent to this literature (Basu & Wadhwa 2013; Ben-Menahem *et al.* 2013; Kwee *et al.*, 2011). Since most organizations need to transform themselves at one time or another, strategic renewal is a key consideration in understanding their long-term survival and prosperity. Strategic renewal describes the process that allows organizations to alter their path dependence by transforming their strategic intent and capabilities. Although the strategic renewal and the competitive strategy concepts are related, strategic renewal differs from competitive strategy in at least two important ways. First, it is a much broader concept, since it refers not only to changes to the firm's competitive strategy, but also to associated changes to its business scope, core capabilities and organization design. Second, strategic renewal focuses on the shift from one (competitive) strategy to another, rather than exploring specific competitive strategies' antecedents, nature, and outcomes (Schmitt, *et al.*, 2018).

Schmitt, *et al.*, (2018), highlighted three primary, recurrent elements that define the core of the strategic renewal concept. Strategic renewal (a) involves a transformation of the firm's core capabilities associated with competitive advantage, (b) concerns the entire organization and has implications across organizational levels and (c) is essential to break path dependence and ensure the firm's long-term survival. Strategic renewal refers to a specific type of strategic change the transformation of the firm's current strategic intent and capabilities.

Concept of performance

Performance is a characteristic of entrepreneurs, namely an attitude of being responsible for their actions and not depending on others (Lestari *et al.*, 2020). Performance is measured using diverse parameters by different organisations some firms measure it through growth, expansion, survival, number of employees, and capital employed (Akyuz & Opusunju, 2020). The indicators of performance are revenue, return on investment, profitability and market share. Hence, whenever the key performance indicators are in favourable states, it indicates efficiency (Lyndon & Timi, 2019). Performance indicates the performance of an organization quantified in monetary terms and reveals the general health in sustaining its operations (Gartenberg *et al.*, 2019). According to (Siahaan *et al.*, 2020), company performance can be measured through operational performance, which refers to the organization's ability to be more efficiently produce and deliver products to customers with better quality and in a shorter time. According to Richard *et al.*, (2019), corporate performance covers three important areas of a company outcomes; financial performance indicators such as profit

growth, return on asset, return on investment. It also encompass product market performance such as sales and market share, shareholders value maximization, economic value added. Performance indicates the performance of an organization quantified in monetary terms and reveals the general health in sustaining its operations (Gartenberg et al 2019).

Firm performance is a measure of how well or poorly an entity is putting its resources into use. It measures the level at which financial objectives are being met (Kang et al, 2021; Yermack, 2021). It measures the efficiency applied by firm in the use of its assets to create profits. Strikingly, there are two reasons for the widespread use of firm performance measure as a tool to measure performance. Performance is the process of ensuring that firms' resources are properly used in pursuit of their goals (George, 2017). This refers to outputs/outcomes(accomplishment) but also states that performance is about doing the work as well as being about the results achieved. Performance could therefore be regarded as behaviour -the way in which organizations, teams and individuals get work done. Performance is about the timely, effective and efficient completion of mutually agreed tasks by the employee, as set out by the employer (Akyuz & Opusunju, 2019).

According to Eze, et al., (2020) growth is defined as the organization recorded an increase in the raw material used in the production of goods and services it implies in the organization is growing. Growth is an important phenomenon in small enterprises. In fact, their survival essentially depends on their power to participate in the market with other big companies (Opusunju, et al.,). In a study by Akyuz, et al., (2019) growth is proxy by customers increase, increase in jobs, expansion of the business.

Innovativeness and Performance

Ploypailin and Pongsutti (2020) examine the moderating effect of firm size on the relationship between innovation and firm performance of small and medium enterprises in 29 countries in Eastern European and Central Asia. The study also investigates whether the impact of innovation in products and processes on firm performance is affected by financial capital. The method applied is partial least square structural equation modelling. The findings indicate that firm size and the financial capital both moderate and mediate the impact of innovation on firm performance, positively or negatively.

Papadopoulou (2020) investigate the impact of innovation on firms' performance, by taking into account the four innovation types (product, process, organizational, marketing) acknowledged by the Oslo Manual, as well different aspects of performance (financial, product, innovative, market). In order to do so, a mixed methodological

approach was conducted, including a survey involving 50 firms operating in the Greek aluminium sector, and a relevant case study analysis. According to research findings, all four innovation types are correlated with each other, revealing innovation's synergy effects on performance. In addition, it was found that innovation types are positively and insignificantly correlated with all business performance measures, supporting that innovation has a positive impact of firm performance. The study found that product and process innovations have a greater impact on performance than organizational and marketing ones, a finding further verified by the case study analysis.

Zand and Rezaei (2020) investigate the impact of process and product innovation strategies on business performance due to the dynamic environmental mediator role. The research method was based on purpose of applied research and in terms of data collection and analysis method was survey-correlation. The statistical population of this study consisted of 36 managers of Iranian banking industry. Questionnaires were used for data collection. Structural equation modeling was used to analyze the data. The results showed that process and product innovation strategies have a positive and significant effect on business performance. Also, Sobel test results indicated that at 95% confidence level, process and product innovation strategies through dynamic mediator variable. Environment has a positive and significant impact on business performance

Thoumrunroje and Racela (2022) investigating the links among composite operant resources (CORs), namely customer orientation, basic operant resources (BORs), innovative capability, and financial performance across Miles and Snow's five business strategy types, including prospectors, differentiated defenders, low-cost (LC) defenders, analyzers, and reactors. The scope of this study is firms based in the emerging market of Thailand. A final sample of 395 Thai firms participated in the self-administered survey. Multiple-group structural equation modeling and multivariate analysis of variance (MANOVA) were utilized to test the hypotheses. The results revealed insightful findings that advance the strategy and innovation literature. While business strategy types moderate the proposed relationships, the only one that is uniform across all five types of firms is the positive, strong, and significant customer orientation–innovation capability link. Moreover, customer orientation and innovative capability contribute significantly to financial performance among prospectors and LC defenders. However, only the former is essential to differentiated defenders, analyzers, and reactors. Overall, the findings suggest that managers must pay attention to connections between their chosen business-level strategy, customer-focused resources, and innovation capabilities to generate the best financial performance outcomes for their firms.

Ernest and Sule (2020) investigate the influence of innovation on the performance of Small and Medium-Scale Enterprises in Kogi State, Nigeria. The study examined the significant effects of the dimensions of innovation on the sales growth of SMEs in Kogi State. The study used survey research design. The sample size of 384 was drawn. All data collected were analyzed using descriptive statistics and Multiple Regression Model. Finding shows that market and process innovations have weak linear effects on the sales growth of SMEs in Kogi State. Only product innovation has strong effect on the sales growth of SMEs in Kogi State.

Strategic Renewal and Performance

Asmaa (2021) examined the impact of strategic renewal on entrepreneurial performance through an exploratory study of banking services in the city of Baghdad. This study aims to determine the impact of context, content and process on entrepreneurial performance represented by strategic orientation, resource orientation, management structure and entrepreneurial culture. A question was distributed to 52 managers of private banks in the city of Baghdad. The research attempts to answer a number of questions, the body of the research problem (Is there a correlation and influence between the dimensions of strategic renewal and pioneering performance, in order to analyze the data obtained from the questionnaires, quantitative methods were used such as the arithmetic mean, standard deviation, coefficient of variation, simple correlation potential and equation modeling) The results showed that the elements of the strategic renewal activities have a significant impact on the entrepreneurial performance.

Balawi and Alkshali (2022) aimed to verify the impact of strategic renewal with its dimensions (context, content and process) on organizational success with its dimensions (flexibility, innovation, cohesion and employee selection) at the Hashemite University in Jordan. The researchers adopted the descriptive analytical method in the study. The study was conducted on a sample of 97 managers. The results of the study indicated that there are medium levels of interest in the dimensions of strategic renewal and dimensions of organizational success by the university administration. The results also showed that there was a significant impact of strategic renewal on organizational success, and that there was a significant impact of the content and process on organizational success, while the context was not significant impact on organizational success

Eze, (2018) studied the effect of corporate entrepreneurship on the non-financial performance of manufacturing firms in Nigeria; they used innovation, proactiveness,

risk-taking, strategic renewal and corporate venturing as independent variables, while identifying market share and employees' satisfactions the dependent variable. The data was collected via questionnaire from management staff in a given company and the result proved that corporate entrepreneurship had a direct effect on market share and employee performance. It showed that the two variables are vital to the managers of the company, employee performance boosts productivity and that market shares determine the overall value of the company. The study is good but the researcher failed to disclose the population and sample size. The method of data analysis was also not disclosed.

Babak and Hossein (2021) studied the investigate the mediating effect of strategic entrepreneurship in the relationship between corporate entrepreneurship and firm performance through the resource-based view. Adopting a quantitative research method and structural equation modeling technique, structural models were developed to test the research hypotheses. To this end, a questionnaire survey was conducted among 103 financial technology companies in Iran. The results support the proposed hypotheses. The findings indicate that corporate entrepreneurship and strategic entrepreneurship are positively related to firm performance. They also reveal the mediating effect of strategic entrepreneurship in the relationship between corporate entrepreneurship and firm performance. In the developing context of Iran, financial technology companies are more likely to employ corporate entrepreneurship and strategic entrepreneurship to achieve firm performance.

Mohammed (2021) examined the relationship between the dimensions of corporate entrepreneurship developed in IT Services companies and organizational growth and the effects of corporate entrepreneurship on organizational growth. This paper tests a framework that examines the nature of the relationship between corporate entrepreneurship and organizational growth. A qualitative case study method to analyze the dimensions of corporate entrepreneurship and their effect on the growth of the organization was used in this study. Semi-structured interview techniques and content analysis were used in this qualitative research. The study discovered that innovation, one of the corporate entrepreneurship dimensions, has positive effects on organizational growth. It is found that corporate entrepreneurship dimensions improved organizational growth by growing a company's innovativeness. In addition, the "autonomy" dimension of corporate entrepreneurship has negative effects on organizational growth.

Innovation Theory of Entrepreneurship

The Innovation theory of entrepreneurship was propounded by Schumpeter (1934) and it is also called schumpeterism (Wood, 2005). This theory focuses on the role of innovation in entrepreneurship. It posited that entrepreneurs possess specific traits and

characteristics that enable them to identify and exploit innovative opportunities. It's stated that "innovation is the major force behind entrepreneurship" (Schumpeter, (1934) The theory further asserted that "Every growth-oriented venture is a function of innovation and without innovation, the theory of entrepreneurship does not exist" The theory recognizes various types of innovation, such as product innovation, process innovation, service innovation, and business model innovation. Product innovation refers to the introduction of new or improved products or services, while process innovation involves enhancing operational efficiency or effectiveness. Service innovation focuses on developing new or improved service offerings, and business model innovation involves reconfiguring the way a firm creates, delivers, and captures value. Schumpeter, (1934). The theory of innovation in entrepreneurship encompasses both technological and non-technological innovations. Technological innovation involves the development and application of new technologies, whereas non-technological innovation includes innovations in areas such as marketing, organizational structures, or business practices. The theory explores various sources of innovation. These can include individual entrepreneurs who generate novel ideas, research and development (R&D) activities within firms or universities, collaborations and knowledge spillovers among different entities, and the adoption and adaptation of external innovations.

Methodology

This study used a cross-sectional survey design, which calls for data collection at a specific time to make an inference about a population of interest. The population of this study comprises of all 113 managers manufacturing firms in North Central Nigeria for a minimum period of five (5) years and that are register with the Corporate Affairs Commission (CAC). However, only those who are exclusively focused on manufacturing was included. Because the population of the study is small, the study employed the use of census survey which permit that the entire population be used as sample size. As a result, the sample size is 113 manufacturing firms in North Central, Nigeria. According to Parker (2011) census sampling is appropriate when the population not extremely huge so as to make sure everyone has the chance to take part in the study and produce a more representative outcome.

For the purpose of this study, only primary sources of information was used. This choice is driven by the desire to quickly and easily acquire reliable information from respondents utilizing a direct approach. The study applied descriptive and inferential statistics to the data collected. The mean, and the standard deviation was use to analyse the survey's item responses, and SmartPLS's Partial Least Square Structural Equation Model (PLS-SEM) was utilized to evaluate the hypotheses that were put forth at the 0.05 level of significance.

The model for the PLS-SEM is pictorially depicted below:

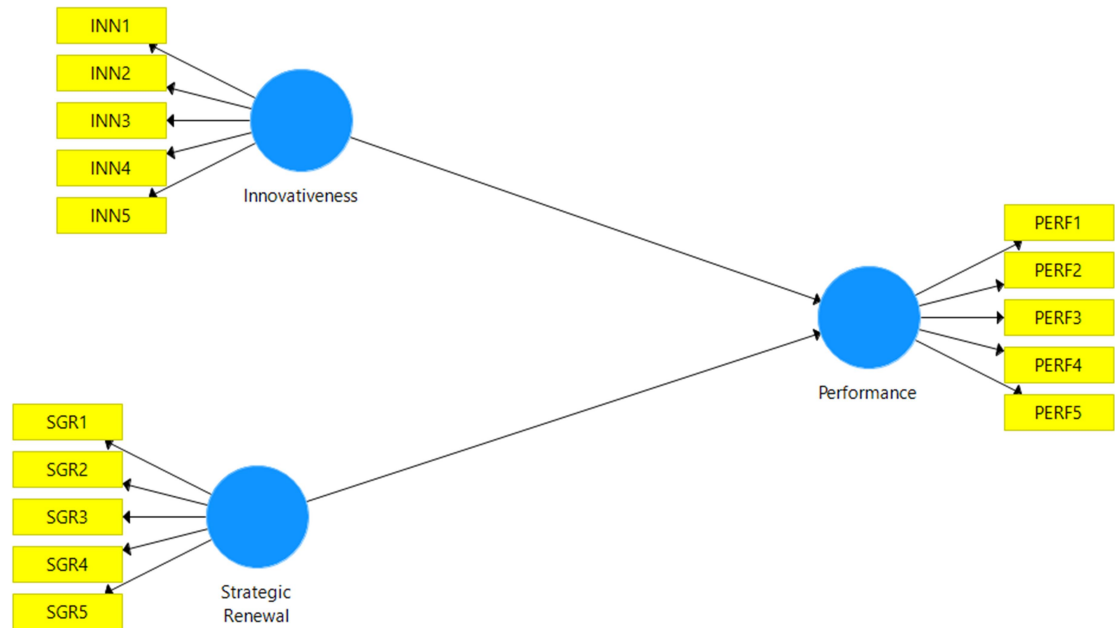


Fig.1: Theoretical Model on Effect of corporate entrepreneurship on performance of manufacturing firms in North Central Nigeria

Results and Discussion

Out of the one hundred and thirteen (113) distributed questionnaires, 109 were properly filled and returned giving a response rate of 96%. Subsequently, all further analyses were done using 109 responses data.

Table 4.1: Descriptive Statistics

variable	Mean	Median	Min	Max	SDV	Kurtosis	Skewness
INN	3.7	2.04	1.00	5.00	0.96	-1.59	-0.09
SGR	3.07	2.01	1.00	5.00	0.97	0.90	-0.98
PERF	4.10	3.00	1.00	5.00	0.89	0.20	-0.68

Source: SMART, PLS Output, 2024.

Data on the study variables were described in Table 4.1 above in terms of the mean, minimum, maximum, standard deviation, skewness and kurtosis values. Innovativeness (INN) revealed an average value of 3.7 with a standard deviation value of 0.96. However, the minimum and maximum values stood at 1 and 5 respectively. Strategic Renewal (SGR) had minimum and maximum values of 1 and 5 respectively however, it showed an average of 3.07 along with a standard deviation of 0.97. Furthermore, performance (PERF) showed a minimum value of 1 and a maximum value of 5 with an

average value of 4.10 accompanied with a standard deviation value of 0.89. All the skewness and kurtosis values were less than 1 which shows that there is a normal distribution of data.

Assessment of Measurement Model

In assessing the measurement model, the researcher began by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the indicator’s variance, thus providing acceptable item reliability (Hair, et al., 2019). However, Hair, et al., (2019) posited that low but significant indicator loading of 0.50 can be included hence justifying why indicators with loadings less than 0.708 and above 0.50 were not deleted from the model as seen in figure 2 below.

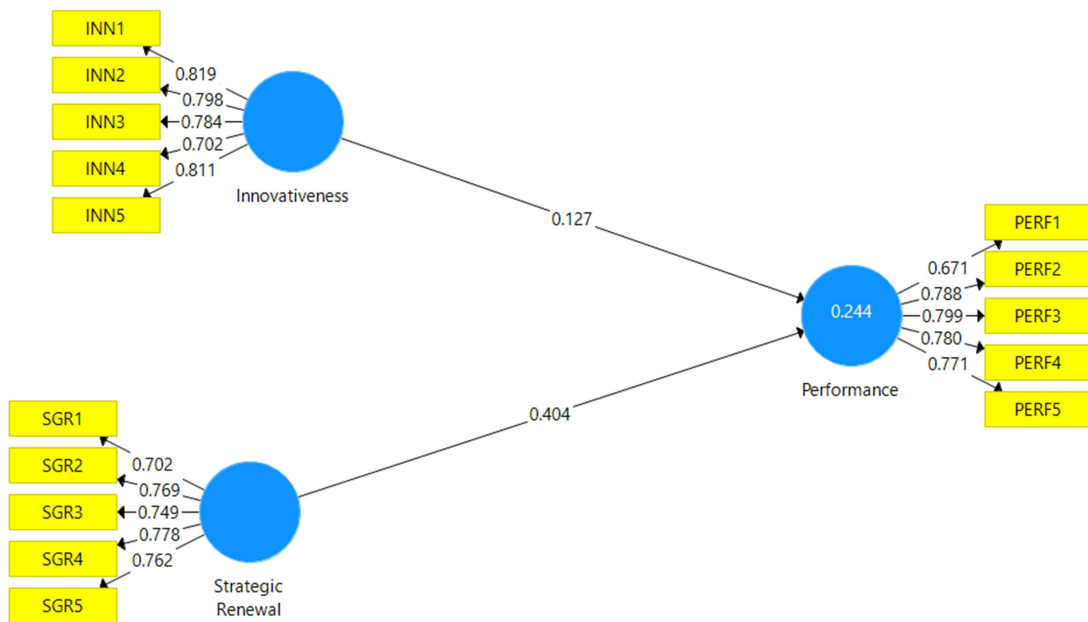


Fig 2: Indicator Loadings.

Table 4.2: Reliability of study scale

S/N	Variables		Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)	No of Items
1	Innovativeness (INN)	INN1 INN2 INN3 INN4 INN5	0.819 0.798 0.784 0.702 0.811	0.843	0.888	0.615	5
2	Strategic Renewal (SGR)	SGR1 SGR2 SGR3 SGR4 SGR5	0.702 0.769 0.749 0.778 0.762	0.809	0.867	0.566	5
3	Performance (PERF)	PERF1 PERF2 PERF3 PERF4 PERF5	0.671 0.788 0.799 0.780 0.771	0.819	0.874	0.582	5

Source: SmartPLS Output, 2024

Composite reliability of Jöreskog's (1971) was applied to test for internal consistency of the study. All the values fall within the Hair, et al., (2019) rating of good consistency. The Cronbach alpha value were above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler, et al., (2015) the Fornell-Larcker criterion does not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016).

Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

Heterotrait-Monotrait Ratio (HTMT)

	Innovativeness	Performance	Strategic Renewal
Innovativeness	1.000		
Performance	0.455	1.000	
Strategic Renewal	0.781	0.587	1.000

Source: SmartPLS Output, 2024

The variance inflation factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 indicate the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

Model Goodness of Fit (GoF)

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual’s (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu & Bentler (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.030. This indicates the model is fit.

Assessing the Structural Model

Having satisfied the measurement model assessment, the next step in evaluating PLS-SEM results is to assess the structural model. Standard assessment criteria, which was considered include the path coefficient, t-values, p-values and coefficient of determination (R^2). The bootstrapping procedure was conducted using a resample of 5000.

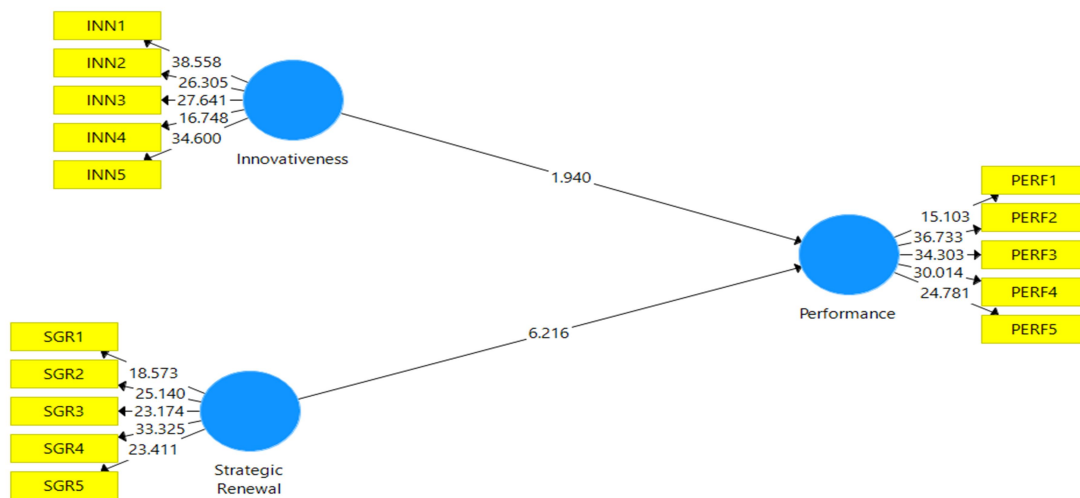


Fig. 3: Path Coefficients of the Regression Model.

R Square Table

	R Square	R Square Adjusted
Performance	0.244	0.241

Source: SmartPLS Output, 2024

The R-square value stood at 24% indicating that corporate entrepreneurship proxied by Innovativeness and Strategic Renewal are responsible for 24% variation in the performance of manufacturing firms in North Central Nigeria. The remaining 76% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered weak but does not jeopardize the result. The result of the path analysis is presented in the table below:

Table 4.4: Path Coefficients

Hypothesis	Variable	Path Coefficient ***(Beta)	t-value	p-value	Findings
Ho ₁	Innovativeness -> Performance	0.087	1.940	0.063	Accepted
Ho ₂	Strategic Renewal -> Performance	0.404	6.216	0.000	Rejected

Source: SmartPLS Output, 2024

The result from the analysis indicates that innovativeness has positive and insignificant effect on performance of manufacturing firm in North Central Nigeria. The decision was reached based on the t-value of 1.940 which is less than 1.964 and a beta value of 0.087 with a p-value of 0.063. The positive effect implies that encouraging innovation might improve performance, but the fact that it's not statistically significant means that this connection isn't strong enough to be clearly seen in the current situation. This finding is in agreement with that of Papadopoulou (2020) who found innovativeness has positive and insignificantly effect on the performance of firms.

The result from the analysis indicates that strategic renewal has positive and significant effect on performance of manufacturing firms in North central Nigeria. The decision was reached based on the t-value of 6.216 which is greater than 1.964 and a beta value of 0.404 with a p-value of 0.000. This implies that when companies focus on updating their strategies like trying out new business models, improving their processes, or introducing innovative products they are likely to see significant improvements in their overall performance. This finding agrees with that of Balawi and Alkshali (2022) who made similar findings about strategic renewal and performance.

Conclusion and Recommendations

The study concluded that, although fostering innovation may hold potential for enhancing performance, the current impact is not strong enough to be reliably observed. This finding highlights a complex relationship where innovativeness may be beneficial, yet other factors could be overshadowing its effectiveness in driving measurable improvements. It is also concluded firms that prioritize strategic renewal are likely to experience substantial improvements in their overall performance, positioning themselves better to meet market demands and navigate industry challenges. Based on the study's findings, it is recommended that manufacturing firms should consider fostering a culture of innovation that encourages experimentation and flexibility through creating an environment where new ideas can flourish and be tested, manufacturing firms may unlock the full potential of their innovative capabilities, ultimately leading to improved performance in the long run. It is recommended that Manufacturing firms should stay informed about industry trends and emerging technologies to ensure their strategies remain relevant and effective. Ensure in engaging market research and competitor analysis that can provide valuable insights to guide the renewal process. Such improvements can create a more comfortable and motivating atmosphere for employees, ultimately leading to enhanced performance.

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