

Assessing the Influence of Entrepreneurial Orientation on the Performance of Small and Medium Scale Enterprises in North-Central Nigeria.

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Adaora.uzochukwu@unn.edu.ng**Abstract**

This study examined the influence of entrepreneurial orientation on the performance of small and medium-scale enterprises (SMEs) in North-Central Nigeria, with specific emphasis on the effects of innovativeness on productivity and risk-taking on profitability. The study sought to establish the strategic relevance of entrepreneurial orientation dimensions in enhancing SME competitiveness and sustainability in a challenging business environment. The study adopted a quantitative survey research design. Data were collected from 319 owners, managers, and senior staff of 14 selected SMEs across North-Central Nigeria using a structured questionnaire designed on a five-point Likert scale. A census sampling approach was employed due to the manageable population size. Content validity was ensured through expert review, while reliability was confirmed using Cronbach's Alpha. Data were analyzed using Ordinal Logistic Regression (OLR) with the aid of SPSS version 26 to test the study hypotheses. The findings revealed that innovativeness has a significant positive effect on SMEs' productivity ($\beta = 1.854$, $p < 0.05$), indicating that enterprises adopting innovative practices achieve improved operational efficiency and output. Similarly, risk-taking significantly and positively influences SMEs' profitability ($\beta = 1.365$, $p < 0.05$), suggesting that firms willing to undertake calculated business risks are more likely to attain superior financial performance. The results demonstrate that entrepreneurial orientation significantly enhances SME performance through improved productivity and profitability. The findings of the study offer practical insights for SME managers and policymakers on the strategic importance of fostering innovation and calculated risk-taking to achieve sustainable business growth and competitiveness.

Keywords: Entrepreneurial orientation, innovativeness, risk-taking, productivity, profitability, SME performance.

Introduction

Entrepreneurship has emerged as a critical driver of economic growth, innovation, and competitiveness in contemporary economies. In both developed and developing nations, entrepreneurial activities are increasingly recognized as vital mechanisms for job creation, poverty reduction, and sustainable development. In recent years, scholars have emphasized that entrepreneurship plays a transformative role in enhancing productivity and stimulating economic dynamism, particularly in economies characterized by structural challenges and limited industrialization (Kuratko, 2016; Urbano et al., 2019). As such, fostering entrepreneurial capabilities has become a strategic priority for governments and policymakers seeking to accelerate economic development.

Small and Medium Scale Enterprises (SMEs) represent the backbone of most economies globally. They account for a substantial share of business activities and employment, making them central to economic resilience and inclusive growth. According to the World Bank (2020), SMEs contribute significantly to employment generation, accounting for about 90% of businesses and more than 50% of jobs worldwide. In addition to their economic contributions, SMEs play a crucial role in promoting innovation, enhancing competition, and facilitating structural transformation (OECD, 2017). Their flexibility and adaptability enable them to respond effectively to changing market conditions, thereby sustaining economic growth even in periods of uncertainty.

In Nigeria, SMEs are widely regarded as engines of economic development due to their significant contributions to Gross Domestic Product (GDP) and employment generation. The sector accounts for nearly half of Nigeria's GDP and employs a large proportion of the labor force (SMEDAN, 2020). In North-Central Nigeria, SMEs operate across various sectors, including agriculture, manufacturing, trade, and services, thereby contributing to regional economic development and livelihood sustenance. Despite their importance, the performance of SMEs in Nigeria remains relatively low compared to global standards. This poor performance is attributed to a combination of internal and external challenges that limit their growth potential and sustainability.

One of the major constraints facing SMEs in Nigeria is limited access to finance, which restricts their ability to invest in innovation, expand operations, and improve productivity. Financial institutions often perceive SMEs as high-risk ventures, leading to stringent lending conditions and high interest rates (Afolabi et al., 2017). In addition to financial constraints, infrastructural deficiencies such as unreliable electricity supply, poor transportation networks, and inadequate technological facilities significantly hinder SME performance (Eze et al., 2018). These challenges are further compounded by inconsistent government policies, multiple taxation, and bureaucratic bottlenecks, which create an unfavorable business environment.

In North-Central Nigeria, the situation is exacerbated by security challenges, including farmer-herder conflicts, banditry, and communal clashes, which disrupt business activities and reduce investor confidence. These challenges not only affect the operational efficiency of SMEs but also limit their ability to compete effectively in both domestic and international markets (Adelaja & George, 2019). Furthermore, socio-cultural factors such as low levels of education and limited entrepreneurial skills contribute to the poor performance of SMEs in the region.

Beyond external constraints, internal strategic factors play a crucial role in determining the performance of SMEs. Among these factors, entrepreneurial orientation (EO) has gained significant attention as a key determinant of firm performance. Entrepreneurial orientation refers to the strategic posture of a firm that reflects its propensity to innovate, take risks, and act proactively in the pursuit of new opportunities (Lumpkin et al., 2013). It encompasses the processes, practices, and decision-making styles that enable firms to identify and exploit opportunities in dynamic business environments.

The concept of entrepreneurial orientation has evolved significantly over the years, with contemporary studies emphasizing its multidimensional nature. The key dimensions of entrepreneurial orientation include innovativeness, and risk-taking (Covin & Wales, 2019). These dimensions collectively influence how firms compete, adapt, and perform in the marketplace. In the context of SMEs, entrepreneurial orientation is particularly important because it enables firms to overcome resource constraints and achieve competitive advantage.

Innovativeness is a critical dimension of entrepreneurial orientation that reflects a firm's ability to generate and implement new ideas, products, and processes. Firms that prioritize innovation are better positioned to enhance productivity, improve efficiency, and respond to changing customer needs (Rosenbusch et al., 2011). In Nigeria, however, many SMEs exhibit low levels of

innovation due to limited access to technology, inadequate research and development, and a lack of skilled personnel. This has hindered their ability to compete effectively in an increasingly globalized economy.

Risk-taking is another important dimension of entrepreneurial orientation that influences firm performance. It involves the willingness of firms to commit resources to opportunities with uncertain outcomes in anticipation of higher returns. Studies have shown that firms that engage in calculated risk-taking are more likely to achieve higher profitability and growth (Kreiser et al., 2013). However, the risk-averse nature of many Nigerian entrepreneurs often limits their ability to pursue growth opportunities, thereby constraining their performance. Despite the theoretical importance of entrepreneurial orientation, empirical evidence on its relationship with SME performance remains mixed. While several studies have reported a positive relationship between entrepreneurial orientation and firm performance (Rauch et al., 2009; Wales et al., 2013), others have found that the relationship is contingent upon contextual factors such as environmental dynamism and organizational structure (Kraus et al., 2012). This suggests that the effectiveness of entrepreneurial orientation may vary depending on the external and internal environment in which firms operate.

Globalization and technological advancements have intensified competition, requiring SMEs to adopt innovative and proactive strategies to remain competitive. The ability to leverage entrepreneurial orientation effectively is therefore critical for enhancing firm performance and achieving sustainable growth. Firms that exhibit high levels of entrepreneurial orientation are more likely to identify new opportunities, develop innovative products, and expand their market reach.

In Nigeria, however, the adoption of entrepreneurial orientation has not translated into significant improvements in SME performance. Many SMEs continue to experience low productivity, limited profitability, and reduced market share. This indicates that there may be underlying factors influencing the relationship between entrepreneurial orientation and performance. Therefore, there is a need for empirical investigation into how entrepreneurial orientation affects SME performance within the specific context of North-Central Nigeria.

Organizational performance is a critical concept in this study, as it reflects the extent to which a firm achieves its objectives. Performance is typically measured using both financial and non-financial indicators, including productivity, profitability, market share, and sales growth (Richard

et al., 2009). In recent years, scholars have emphasized the importance of adopting a multidimensional approach to performance measurement, as relying solely on financial indicators may not provide a comprehensive assessment of organizational success.

Given the importance of SMEs in Nigeria's economic development and the challenges they face, it is imperative to explore strategies that can enhance their performance. Entrepreneurial orientation provides a valuable framework for understanding how SMEs can improve their competitiveness and achieve sustainable growth. By focusing on key dimensions such as innovativeness, risk-taking, proactiveness, and competitive aggressiveness, SMEs can develop the strategic capabilities needed to navigate complex business environments and achieve superior performance. Therefore, this study seeks to examine the effect of entrepreneurial orientation on the performance of small and medium scale enterprises in North-Central Nigeria. Specifically, the study investigates the influence of innovativeness on productivity, risk-taking on profitability, proactiveness on market share, and competitive aggressiveness on sales performance. The findings of this study are expected to contribute to the existing body of knowledge and provide practical insights for policymakers, entrepreneurs, and other stakeholders in the SME sector.

Statement of the Problem

Small and Medium Scale Enterprises (SMEs) are widely recognized as critical drivers of economic growth, employment generation, and poverty reduction in Nigeria. Despite their significant contributions to national development, the performance of SMEs in North-Central Nigeria remains relatively low and inconsistent. Many SMEs in the region struggle with challenges such as low productivity, declining profitability, limited market share, and poor sales performance. These challenges are further exacerbated by external factors including inadequate infrastructure, limited access to finance, policy inconsistencies, and persistent security concerns. As a result, a considerable number of SMEs fail to achieve sustainable growth, thereby undermining their potential contribution to economic development (SMEDAN, 2020; World Bank, 2020).

Beyond these external constraints, there is growing concern that internal strategic deficiencies, particularly in terms of entrepreneurial orientation, may significantly influence the performance outcomes of SMEs. Entrepreneurial orientation, which encompasses innovativeness, risk-taking, proactiveness, and competitive aggressiveness, is considered essential for firms operating in dynamic and competitive environments. However, many SMEs in North-Central Nigeria exhibit low levels of innovation, risk aversion, reactive market behavior, and weak competitive strategies. This suggests that despite operating in an environment that demands agility and strategic responsiveness, SMEs in the region may lack the entrepreneurial capabilities required to effectively identify and exploit emerging business opportunities (Covin & Wales, 2019; Kreiser et al., 2013).

Furthermore, existing empirical studies on the relationship between entrepreneurial orientation and firm performance have produced mixed and inconclusive results, particularly within developing economies like Nigeria. While some studies report a positive relationship, others argue that this relationship is influenced by contextual factors such as environmental dynamism and organizational structure. In North-Central Nigeria, the business environment is characterized by high uncertainty, rapid changes, and structural inefficiencies, which may moderate the effectiveness of entrepreneurial orientation on SME performance. However, there is limited empirical evidence examining how these factors interact within this specific regional context. Therefore, this study seeks to address this gap by investigating the effect of entrepreneurial orientation on the performance of SMEs in North-Central Nigeria, with a view to providing context-specific insights that can

Objectives of the Study

The broad objectives of this study are to assess the influence of entrepreneurial orientation on the performance of small and medium scale enterprises in North-Central Nigeria. Specifically, the study intends to:

- i. Examine the impact of innovativeness on the productivity of small and medium-scale enterprises.
- ii. Determine how risk-taking influences the profitability of small and medium-scale enterprises.

Review of Related Literature

Conceptual Review

Entrepreneurial Orientation

Entrepreneurial Orientation (EO) has emerged as a central construct in strategic management and entrepreneurship literature, particularly in explaining firm-level behavior and performance. It refers to the processes, practices, and decision-making styles that characterize an organization's entrepreneurial activities (Covin & Wales, 2019). EO reflects how firms identify and exploit opportunities, innovate, take risks, and proactively compete within their environments. The concept of EO has evolved significantly over time, with scholars emphasizing its multidimensional nature. According to Lumpkin and Dess (2013), entrepreneurial orientation represents a firm's strategic posture that embodies innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy. However, most empirical studies focus on the core dimensions of innovativeness, risk-taking, proactiveness, and competitive aggressiveness due to their direct influence on firm performance (Kreiser et al., 2013).

Empirical studies have consistently demonstrated a positive relationship between EO and firm performance. Firms with higher levels of entrepreneurial orientation tend to achieve better outcomes in terms of profitability, growth, market share, and overall competitiveness (Kraus et al., 2012; Covin & Wales, 2019). However, the strength of this relationship often depends on contextual factors such as environmental dynamism, institutional frameworks, and organizational capabilities (Urbano et al., 2019).

Dimensions of Entrepreneurial Orientation

Innovativeness

Innovativeness is a fundamental dimension of entrepreneurial orientation and reflects a firm's propensity to engage in creativity, experimentation, and the development of new ideas, products, or processes. It represents the extent to which an organization supports and encourages

innovation as a means of achieving competitive advantage (Rosenbusch et al., 2011). In practical terms, innovativeness involves the introduction of new products or services, the adoption of advanced technologies, and the improvement of existing production processes. For SMEs, innovativeness is particularly important because it enables them to differentiate themselves from competitors, meet changing customer needs, and enhance operational efficiency. Innovative firms are more likely to identify emerging trends and capitalize on new market opportunities.

Risk-Taking

Risk-taking is another essential dimension of entrepreneurial orientation and refers to the willingness of a firm to commit resources to opportunities with uncertain outcomes. It involves making strategic decisions in situations where the probability of success is not guaranteed, thereby exposing the firm to potential losses as well as gains (Wales et al., 2013). In the context of SMEs, risk-taking is often associated with activities such as entering new markets, investing in new technologies, launching new products, and expanding business operations. These activities require firms to make decisions under conditions of uncertainty and ambiguity. While risk-taking can lead to significant rewards, it also involves the possibility of failure.

Performance of Small and Medium-Scale Enterprises (SMEs)

Performance in the context of SMEs refers to the extent to which a firm achieves its objectives, which may include financial outcomes, market positioning, operational efficiency, and growth (Richard et al., 2009). According to Richard et al. (2009), organizational performance reflects three broad areas: financial performance (profits, return on assets), product market performance (sales, market share), and shareholder returns. However, in SMEs especially in developing economies performance is often assessed using a combination of financial and operational indicators due to limitations in financial reporting and data availability.

Measures of SMEs Performance

i. Productivity

Productivity is a fundamental measure of organizational performance and refers to the efficiency with which a firm utilizes its resources to produce goods and services. It is typically expressed as the ratio of output to input and serves as a key indicator of operational efficiency and effectiveness (OECD, 2017). In the context of SMEs, productivity reflects the firm's ability to maximize output while minimizing the use of resources such as labor, capital, and raw materials.

High productivity is essential for the competitiveness and sustainability of SMEs. Firms that achieve higher productivity levels are better positioned to reduce production costs, improve product quality, and enhance profitability. Productivity also enables firms to compete effectively in both domestic and international markets, particularly in industries characterized by intense competition and rapid technological change. Several factors influence productivity in SMEs, including technological adoption, workforce skills, managerial competence, and organizational processes. The adoption of modern technologies, for instance, can significantly enhance production efficiency by reducing waste, improving accuracy, and increasing output. Similarly, investment in employee training and development can improve workforce productivity by enhancing skills and knowledge.

ii. Profitability

Profitability is one of the most widely used indicators of firm performance and reflects the ability of a business to generate profit from its operations. It is typically measured using financial ratios such as net profit margin, return on investment (ROI), and return on assets (ROA) (Richard et al., 2009). Profitability is a critical indicator of business success, as it determines the firm's capacity to sustain operations, invest in growth, and provide returns to stakeholders. For SMEs, profitability is particularly important because it directly affects their survival and long-term viability. A profitable SME is better positioned to reinvest in its operations, expand its activities, and withstand economic shocks. Conversely, low profitability can lead to financial distress and business failure.

Theoretical Review

This section presents an extensive theoretical review underpinning the study on entrepreneurial orientation and the performance of small and medium-scale enterprises (SMEs) in North-Central Nigeria. The theoretical framework provides a foundation for understanding the relationships between the dimensions of entrepreneurial orientation innovativeness, and risk-taking, and performance indicators, productivity, and profitability.

Schumpeter's Innovation Theory

Schumpeter's Innovation Theory, originally proposed by Schumpeter (1934) and further developed in subsequent studies, emphasizes the role of innovation as the primary driver of economic development and firm performance. According to this theory, entrepreneurs act as agents of "creative destruction" by introducing new products, processes, and business models that disrupt existing market structures and create new opportunities. In the context of SMEs, innovativeness represents the firm's capacity to engage in such creative activities. Innovation can take various forms, including product innovation, process innovation, marketing innovation, and organizational innovation. These innovations enhance productivity by improving efficiency, reducing costs, and increasing output quality (Rosenbusch et al., 2011). Productivity, defined as the ratio of output to input, is directly influenced by a firm's ability to innovate. Firms that adopt advanced technologies and innovative processes are more likely to achieve higher levels of productivity. For example, the introduction of automated production systems can reduce labor costs and increase output, thereby improving productivity.

Empirical studies have consistently supported the positive relationship between innovativeness and productivity. Kreiser et al. (2013) argue that innovative firms are better equipped to adapt to environmental changes and exploit new opportunities, leading to improved performance outcomes. Similarly, Kraus et al. (2012) found that innovativeness significantly enhances SME performance, particularly in dynamic and competitive environments. However, the application of innovation in SMEs is often constrained by limited resources, lack of technical expertise, and inadequate infrastructure. Despite these challenges, SMEs that prioritize innovation are more likely to achieve sustainable growth and competitive advantage. Schumpeter's Innovation Theory

provides a strong theoretical basis for understanding how innovativeness influences productivity. By fostering a culture of innovation and investing in new technologies, SMEs can enhance their operational efficiency and achieve higher levels of performance.

Prospect Theory

Prospect Theory, developed by Kahneman and Tversky (1979) and widely applied in entrepreneurship research, explains how individuals and organizations make decisions under conditions of uncertainty. The theory posits that decision-makers evaluate potential outcomes relative to a reference point and exhibit different attitudes toward risk depending on whether they perceive gains or losses. In the context of SMEs, risk-taking is a critical dimension of entrepreneurial orientation that involves committing resources to uncertain opportunities. According to Prospect Theory, entrepreneurs are more likely to take risks when they perceive potential gains to outweigh potential losses. This behavior is particularly relevant in dynamic and competitive environments where opportunities are often accompanied by uncertainty. Profitability, as a measure of financial performance, is closely linked to risk-taking behavior. Firms that are willing to take calculated risks such as investing in new markets or launching innovative products are more likely to achieve higher returns. However, excessive risk-taking without proper analysis can lead to financial losses and business failure (Kuratko, 2016).

Empirical evidence supports the relationship between risk-taking and profitability. Wales et al. (2013) found that moderate levels of risk-taking are associated with improved firm performance, while extremely high or low levels of risk-taking may have negative effects. This suggests that an optimal level of risk-taking is necessary for achieving profitability. Furthermore, risk-taking is influenced by both internal and external factors. Internally, factors such as managerial competence, organizational culture, and resource availability play a significant role. Externally, market conditions, competition, and regulatory environment also affect risk-taking behavior.

In developing economies such as Nigeria, SMEs often face high levels of uncertainty due to economic instability, infrastructural challenges, and policy inconsistencies. In such environments, the ability to take calculated risks becomes a critical determinant of success. Thus, Prospect Theory provides a valuable framework for understanding how risk-taking influences

profitability. By adopting a balanced approach to risk-taking, SMEs can maximize returns while minimizing potential losses.

Empirical Review

This section reviews relevant empirical studies related to the variables under investigation. The review follows the structure of the study objectives and adopts a consistent analytical format, highlighting methodology, findings, and limitations of prior studies.

Empirical Review on Entrepreneurial Orientation and Performance

Kraus, Rigtering, Hughes, and Hosman (2012) conducted a study titled “*Entrepreneurial Orientation and the Business Performance of SMEs: A Quantitative Study in the Netherlands.*” The objective of the study was to examine the relationship between entrepreneurial orientation and the performance of small and medium-scale enterprises. The study adopted a quantitative survey research design and collected data from 164 SMEs in the Netherlands through structured questionnaires administered to business owners and managers. Regression analysis was employed to analyze the relationship between entrepreneurial orientation dimensions and firm performance. The findings revealed that entrepreneurial orientation significantly and positively affects SME performance, especially in dynamic and competitive business environments. The study concluded that firms that embrace entrepreneurial practices such as innovativeness, risk-taking, and proactiveness tend to achieve superior performance outcomes. The researchers recommended that SME managers should strengthen entrepreneurial orientation practices in order to improve competitiveness and long-term sustainability. However, the study was conducted in a developed economy, thereby limiting its direct applicability to developing countries such as Nigeria where institutional and environmental conditions differ considerably.

Rosenbusch, Brinckmann, and Bausch (2011) carried out a study titled “*Is Innovation Always Beneficial? A Meta-Analysis of the Relationship between Innovation and Performance in SMEs.*” The study aimed to investigate the influence of entrepreneurial orientation, particularly innovation, on firm performance. The researchers adopted a meta-analysis methodology involving the synthesis of findings from 42 empirical studies across different countries and industries. Quantitative findings from previous studies were statistically analyzed to establish the

overall relationship between entrepreneurial orientation and organizational performance. The findings indicated that entrepreneurial orientation positively influences firm performance, especially in small and medium enterprises where innovation serves as a critical driver of growth and competitiveness. The study concluded that firms that continuously innovate are more likely to achieve sustainable performance advantages. The researchers recommended that SMEs should invest in innovative capabilities and technological development to improve organizational performance. However, the study concentrated more on innovation and paid less attention to other entrepreneurial orientation dimensions such as competitive aggressiveness and proactiveness.

Wales, Gupta, and Mousa (2013) conducted a study titled “*Empirical Research on Entrepreneurial Orientation: An Assessment and Suggestions for Future Research.*” The study examined the relationship between entrepreneurial orientation and organizational performance across multiple industries and contexts. The researchers adopted a systematic review and meta-analysis research methodology using data gathered from over 50 empirical studies. Statistical analysis and comparative evaluations were employed to synthesize the findings from prior research works. The study found a strong and positive relationship between entrepreneurial orientation and firm performance, while environmental dynamism was found to moderate the relationship. The study concluded that entrepreneurial orientation remains a major determinant of organizational growth and competitiveness across industries. The researchers recommended that firms operating in turbulent business environments should continuously develop entrepreneurial capabilities to sustain competitive advantage. However, the study lacked specific emphasis on SMEs operating within developing economies such as Nigeria.

Methodology

The research adopted a survey research design with a focus on quantitative research methods. The survey research design was considered suitable for this study because it allows the researcher to collect data from a large population within the North Central States of Nigeria. Both primary and secondary sources of data were used in this study. The population is made up of management staff of 14 selected SMEs distributed across six states in the region and the Federal Capital Territory (FCT). Thus, the respondents targeted include owners/managers and senior

staff of the selected SMEs. The population of the study consists of 319 respondents drawn from selected Small and Medium Scale Enterprises (SMEs) across North-Central Nigeria. Given that the population size is relatively small and manageable, the study adopted a complete enumeration approach (census sampling). The SMEs selected for the study cut across Benue, Kogi, Kwara, Nasarawa, Niger, Plateau States, and the Federal Capital Territory (FCT). Respondents include owners, managers, and senior staff of the selected SMEs, all of whom formed the census population of 319 respondents. Data were collected using a structured questionnaire designed on a five-point Likert scale: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1). Content validity was ensured through expert review by lecturers in the Department of Management Sciences. Their suggestions were used to improve the clarity, relevance, and structure of the questionnaire. Reliability refers to the consistency of measurement over time. The internal consistency of the instrument was tested using Cronbach's Alpha coefficient. According to Hair et al. (2010), a Cronbach Alpha value of 0.70 and above is considered acceptable. Data collected were analyzed using Ordinal Logistic Regression (OLR) with the aid of SPSS version 26. The choice of ordinal logistic regression is appropriate because the dependent variables (SME performance indicators) are measured in ordinal form using Likert scales.

Data Presentation and Analyses

Test of Hypotheses

Test of Hypothesis One

- Ho: Innovativeness has no significant effect on the productivity of small and medium scale enterprises in North-Central Nigeria
- H₁: Innovativeness has a significant effect on the productivity of small and medium scale enterprises in North-Central Nigeria

Table 4.3.1: Case Processing Summary

		N	Marginal Percentage
Productivity	3.75	2	0.6%
	4.00	5	1.6%
	4.25	22	6.9%
	4.50	57	17.9%
	4.75	55	17.2%
	5.00	178	55.8%
Innovativeness _	4.25	7	2.2%
	4.50	31	9.7%
	4.75	122	38.2%
	5.00	159	49.8%
Valid		319	100.0%
Missing		0	
Total		319	

Table 4.3.2: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	59.420			
Final	54.770	4.650	3	.009

Link function: Logit.

This result indicates that the inclusion of the predictor variables significantly improved the model's ability to predict the dependent variable compared to the intercept-only model. Therefore, the model provides a good fit to the data and is statistically significant in explaining variations in the outcome variable.

Table 4.3.3: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	5.603	12	.935
Deviance	7.252	12	.841

Link function: Logit.

The model is considered a good fit since the goodness-of-fit statistics show high significance levels (Pearson p-value = 0.935 > 0.05; Deviance p-value = 0.841 > 0.05).

Table: 4.3.4: Pseudo R-Square

Cox and Snell	.410
Nagelkerke	.610
McFadden	.620

Link function: Logit.

Pseudo R-Square values are moderate (Cox and Snell = 0.410 i.e 41%; Nagelkerke = 0.61 i.e 61%; McFadden = 0.62 i.e 62%). This indicates that market Innovativeness accounts for a substantial proportion of the variation in productivity of Small and medium scall enterprises in North-Central, Nigeria

Table 4.3.5:Parameter Estimates

							95% confidence interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Thresh old	[Productivity]	4.942	.716	47.626	1	.000	3.538	6.345
Locati on	[Innovativene ss]	1.854	.422	4.100	1	.043	2.899	4.446

Link function: Logit

The results revealed that Innovativeness positively affects Productivity. With an increase in the probability of SMEs Productivity at an odds ratio of 1.854 (95% CL 2.899 to 4.446), Wald $X^2(1) = 4.1$; $P = 0.043 < 0.05$. Therefore, the alternate hypothesis, which states that Innovativeness has a positive effect on SMEs productivity, is hereby accepted, and the null hypothesis is rejected

Test of Hypothesis Two

Ho: Risk-taking does not significantly influence the profitability of small and medium-scale enterprises in North-Central Nigeria.

H₁: Risk-taking significantly influences the profitability of small and medium-scale enterprises in North-Central Nigeria.

Table 4.3.6: Case Processing Summary

		N	Marginal Percentage
Profitability	4.25	10	3.1%
	4.50	21	6.6%
	4.75	93	29.2%
	5.00	195	61.1%
Risk-taking	3.75	1	0.3%
	4.00	1	0.3%
	4.25	6	1.9%
	4.50	33	10.3%
	4.75	100	31.3%
	5.00	178	55.8%
Valid		319	100.0%
Missing		0	
Total		319	

Table 4.3.7: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	47.092			
Final	45.020	2.072	5	.039

Link function: Logit.

Significant at 0.039, therefore, the null hypothesis of a model with no predictors is rejected. This indicates that including the predictors enhances the model's predictive ability.

Table 4.3.8: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	7.823	10	.646
Deviance	8.557	10	.575

Link function: Logit

The model is considered a good fit since the goodness-of-fit statistics show high significance levels (Pearson p-value = 0.646 > 0.05; Deviance p-value = 0.575 > 0.05).

Table 4.3.9: Pseudo R-Square

Cox and Snell	.60
Nagelkerke	.54
McFadden	.33

Link function: Logit

Pseudo R-Square values are moderate (Cox and Snell = 0.60 or 60%; Nagelkerke = 0.54 i.e., 54%; McFadden = 0.33 ie, 33%). This indicates that Risk-taking accounts for a substantial proportion of the variation in SMEs' profitability.

Table 4.3.10: **Parameter Estimates**

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower bound	Upper bound
Threshold	[Risk-taking]	3.459	.338	104.948	1	.000	2.797	4.121
Location	[Profitability]	1.365	1.839	3.551	1	.000	1.836	2.679

The results revealed that Risk-taking positively affects SMEs profitability. With an increase in the probability of risk-taking at an odds ratio of 1.365 (95% CL 1.836 to 2.679), Wald $X^2(1) = 3.551$; $P = .000 < 0.05$. Therefore, the alternate hypothesis, which states that Risk-taking has a positive effect on SMEs profitability, is hereby accepted, and the null hypothesis is rejected

Discussion of Findings

Hypothesis one was tested with ordinal logistic regression to ascertain the effect of innovativeness on the productivity of small and medium-scale enterprises in North-Central Nigeria. The result revealed that innovativeness had a positive effect on SMEs' productivity ($\beta = 1.854$, $P = 0.043 < 0.05$). Therefore, the alternate hypothesis, which states that innovativeness has a positive effect on the productivity of SMEs in North-Central Nigeria, is hereby accepted, while the null hypothesis is rejected. The implication of this finding is that SMEs that consistently introduce new ideas, adopt modern production methods, improve products and services, and encourage creativity among employees are more likely to achieve higher productivity levels. The significant positive relationship further suggests that innovation remains a major driver of operational efficiency and organizational growth among SMEs operating in competitive and dynamic business environments.

This finding is consistent with the work of Schumpeter who emphasized that innovation is the engine of economic growth and business performance because it enables firms to create value through new combinations of resources. Similarly, Drucker argued that innovation is the specific instrument of entrepreneurship through which firms exploit changes as opportunities for productivity improvement and competitive advantage. The finding also aligns with the study of

Rosenbusch et al. (2011), who found that innovation positively influences SME performance, especially when firms integrate innovative practices into their strategic operations. In support of the present result, Calantone et al. (2012) noted that innovative firms are more capable of adapting to environmental changes, improving internal efficiency, and achieving superior organizational outcomes. Furthermore, OECD (2018) maintained that innovation contributes significantly to productivity growth by improving production techniques, reducing waste, and enhancing product quality.

The finding also corroborates the Dynamic Capability Theory advanced by Teece et al. (2017), which posits that firms that continuously renew their competencies through innovation are more capable of sustaining performance in turbulent environments. Within the context of North-Central Nigeria, the result indicates that SMEs that embrace innovative orientation can better cope with infrastructural challenges, changing customer preferences, and market uncertainties. However, the finding contradicts the study of Verhees and Meulenbergh (2014), who argued that innovation may not always improve productivity in small firms because of limited financial and technological resources that constrain effective implementation. Despite this contrary position, the current study demonstrates that innovativeness remains a critical strategic orientation for enhancing SME productivity in Nigeria.

Hypothesis two was tested with ordinal logistic regression to ascertain the effect of risk-taking on the profitability of small and medium-scale enterprises in North-Central Nigeria. The result revealed that risk-taking had a positive effect on SMEs' profitability ($\beta = 1.365$, $P = 0.000 < 0.05$). Therefore, the alternate hypothesis, which states that risk-taking positively influences the profitability of SMEs in North-Central Nigeria, is hereby accepted, while the null hypothesis is rejected. This implies that SMEs willing to undertake calculated business risks, invest in uncertain opportunities, and venture into unfamiliar markets are more likely to achieve increased profitability and financial growth.

The finding supports the Entrepreneurial Orientation Theory developed by Miller (1983), who identified risk-taking as one of the core dimensions of entrepreneurial orientation associated with superior firm performance. The result is also consistent with the work of Covin and Slevin (1989), who found that firms that demonstrate greater willingness to commit resources to uncertain opportunities often outperform conservative firms in dynamic business environments.

Likewise, Lumpkin and Dess (1996) argued that risk-taking behaviour enables firms to exploit emerging opportunities ahead of competitors, thereby increasing profitability and market success.

The finding further aligns with the study of Keh et al. (2007), who found that entrepreneurial firms with higher risk-taking propensity tend to experience better financial outcomes because they are more proactive in exploring growth opportunities. Similarly, Wiklund and Shepherd (2005) observed that moderate and calculated risk-taking contributes positively to firm growth and profitability. In the Nigerian SME context, this finding suggests that business owners who strategically invest in expansion, technology acquisition, and product diversification are more likely to improve their profit margins despite environmental uncertainties such as inflation, insecurity, and unstable infrastructure. However, the finding contrasts with the study of Brockhaus (1980), who argued that excessive risk-taking may expose small firms to financial instability and business failure. In a similar vein, March and Shapira (1987) contended that risk-taking without adequate information and managerial competence may produce negative organizational outcomes. Nevertheless, the current study specifically emphasizes calculated and strategic risk-taking rather than reckless business decisions, thereby explaining the positive influence on profitability among SMEs in North-Central Nigeria.

Conclusion

The study concludes that entrepreneurial orientation encompassing innovativeness, and risk-taking, significantly contributes to the performance of small and medium-scale enterprises in North-Central Nigeria. These dimensions of entrepreneurial orientation collectively enhance critical aspects of SMEs' performance, including productivity, and profitability. The findings revealed that each dimension of entrepreneurial orientation exerts a measurable and positive influence on specific indicators of SMEs' performance, thereby confirming the strategic relevance of entrepreneurial behaviour in sustaining business growth and competitiveness. Specifically, innovativeness improves SMEs' productivity by enabling enterprises to introduce new ideas, adopt improved production methods, and develop creative solutions to operational challenges. Through innovation, SMEs are better able to utilize resources efficiently, improve product quality, reduce operational inefficiencies, and increase overall output. In a highly dynamic and competitive business environment, innovativeness equips SMEs with the capacity to adapt to changing market conditions and customer demands, thereby

enhancing productivity and long-term sustainability. Risk-taking positively enhances SMEs' profitability by encouraging entrepreneurs to invest in uncertain but potentially rewarding business opportunities. SMEs that are willing to undertake calculated risks are more capable of exploring new markets, diversifying products and services, adopting modern technologies, and making strategic investments that yield higher financial returns. The ability to take calculated risks also strengthens firms' resilience and competitive positioning, particularly in uncertain economic environments characterized by market volatility and infrastructural challenges.

Recommendations

Based on the findings of this study, the following recommendations are hereby proposed:

- i. Small and medium-scale enterprises in North-Central Nigeria are encouraged to adopt innovativeness as a strategic tool for enhancing productivity. SME owners and managers should continuously introduce new ideas, improve products and services, adopt modern technologies, and encourage creativity within their organizations in order to improve operational efficiency and output.
- ii. Small and medium-scale enterprises should strengthen their risk-taking orientation to improve profitability. SME operators should be willing to undertake calculated business risks, invest in viable opportunities, explore new markets, and diversify their products and services to enhance financial performance and long-term business growth.

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