IMPACT OF MARKET INNOVATION ON SMALL AND MEDIUM ENTERPRISES PERFORMANCE IN LAFIA, NASARAWA STATE

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ABSTRACT

The study addressed the critical issue of enhancing the performance of small and medium-sized enterprises (SMEs) in Lafia, Nasarawa State, through market innovation. Despite the recognized potential of SMEs to drive economic growth, many in this region struggled with growth and competitiveness, highlighting a need for innovative practices. The main objective of the study was to assess the impact of new product/service introduction (NPSI), technology adoption (TA), and start-up hubs (SUH) on the performance of SMEs in Lafia. To achieve this, the study employed a survey research design, targeting a population of 9,722 registered SMEs. A sample size of 384 SMEs was determined using Taro Yamane sampling techniques to ensure representativeness. Data were collected through structured questionnaires administered to the sampled SMEs. The collected data were analysed using Ordinal Logistic Regression (OLR) to determine the relationship between the independent variables (NPSI, TA, and SUH) and the dependent variable (SME performance). Descriptive statistics and hypothesis testing were also conducted to provide a comprehensive analysis. The findings revealed that all three components of market innovation had a positive and significant impact on SME performance. Specifically, new product/service introduction significantly enhanced SME growth and adaptability to market demands. Technology adoption was found to improve operational efficiency and competitive advantage, while engagement with start-up hubs provided essential resources and networking opportunities that further boosted SME performance. Based on these findings, several specific recommendations were made. It was suggested that SMEs should be supported in consistently introducing new products and services through partnerships that provide funding and resources for research and development. For technology adoption, increased access to affordable technological tools was recommended, facilitated by subsidies or tax incentives, along with robust infrastructure for internet connectivity and digital literacy programs. Lastly, to enhance the role of start-up hubs, investments in establishing and expanding these hubs were recommended, alongside programs connecting SMEs with successful entrepreneurs and industry experts for mentorship and support.

INTRODUCTION

Market innovation is a critical driver of economic growth and competitiveness in the global economy. It involves the development and implementation of new products and services, the adoption of advanced technologies, and the establishment of supportive environments such as start-up hubs. The components of market innovation enable businesses to enhance their operational efficiencies, meet evolving customer needs, and maintain a competitive edge. The development and implementation of new products and services are fundamental aspects of market innovation. This involves creating products or services that are either entirely new or significantly improved compared to existing offerings. The adoption of advanced technologies is a critical driver of innovation. Technology adoption (TA) refers to the process by which businesses integrate new technological tools and systems into their operations. This can include a wide range of technologies, such as digital platforms, automation, artificial intelligence, and data analytics. By adopting these technologies, businesses can streamline their operations, reduce costs, enhance productivity, and improve service delivery. The establishment of supportive environments such as start-up hubs is essential for fostering innovation. Start-up hubs (SUH) are ecosystems designed to support new and growing businesses by providing a range of resources and services. These hubs often include co-working spaces, access to funding, mentorship programs, and networking opportunities. They create an environment where entrepreneurs and small business owners can collaborate, share knowledge, and receive the support they need to develop and scale their ideas. Such hubs are instrumental in accelerating the growth of start-ups and SMEs by reducing barriers to entry and providing the tools necessary for success. These elements collectively foster a dynamic business environment, essential for sustaining growth and competitiveness.

Globally, market innovation has been a significant catalyst for economic development, with countries investing heavily in research and development (R&D) to maintain their competitive edge. According to the Global Innovation Index (GII) 2023, Switzerland, Sweden, and the United States are leading the way in innovation, leveraging substantial investments in technology and robust support systems for startups. In Nigeria, market innovation has been increasingly recognized as vital for economic transformation and diversification. The Nigerian government, through various policies and initiatives, has sought to stimulate innovation across different sectors. For instance, the establishment of technology hubs such as Co-Creation Hub (CcHub) in Lagos has provided a platform for tech startups to thrive, leading to significant contributions to the GDP. According to the National Bureau of Statistics (NBS), the Information and Communication Technology (ICT) sector alone contributed about 15.05% to Nigeria's GDP in the second quarter of 2022. This underscores the critical role of market innovation in enhancing economic performance.

Small and Medium-sized Enterprises (SMEs) are pivotal to economic growth, employment, and innovation globally. SMEs contribute significantly to global economic output and job creation. In Europe, for example, SMEs account for 99% of all businesses and contribute to more than half of the total value-added created by businesses in the region. Similarly, in developing countries, SMEs are essential for fostering inclusive growth and development. The World Bank highlights that SMEs represent about 90% of businesses and more than 50% of employment worldwide. These figures underscore the crucial role that SMEs play in driving economic development and improving the living standards of citizens. Ideally, SMEs should have access to the necessary resources, infrastructure, and institutional support to operate efficiently, grow their businesses, and compete effectively in local and global markets.

However, the reality in Lafia, Nasarawa State, shows a different perspective. SMEs in this region are struggling to achieve their potential. Despite their importance, they face numerous challenges that impede their performance. The current situation is characterized by limited access to finance, inadequate infrastructure, and a lack of technological adoption. According to the National Bureau of Statistics (NBS), SMEs in Nigeria contribute approximately 48% to the national GDP and account for 84% of employment, yet their growth and productivity remain stunted due to these persistent obstacles (SMEDAN & NBS, 2020). This situation is further exacerbated by an unfavourable business environment, which includes bureaucratic bottlenecks and inconsistent government policies.

To address these challenges and enhance the performance of SMEs, the Nigerian government along with international development partners, have introduced several strategies aimed at enhancing SME performance. These measures include the establishment of the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) to provide support services to SMEs, the introduction of the National Collateral Registry to improve access to finance, and the implementation of policies such as the National Enterprise Development Programme (NEDEP) to create an enabling environment for SMEs (Adebayo & Oluwadare, 2018); providing tax incentives, offering grants and subsidies. Additionally, initiatives such as the Bank of Industry's (BOI) SME Loan Scheme and the Central Bank of Nigeria's (CBN) Micro, Small, and Medium Enterprises Development Fund (MSMEDF) have been introduced to provide financial support to SMEs (Oyelaran-Oyeyinka & Lal, 2016).

Unfortunately, despite these interventions, the performance of SMEs in Nigeria and in Lafia in particular are unable to expand their operations, or increase their output remains unsatisfactory. The Global Innovation Index (2021) ranks Nigeria 118th out of 132 economies, indicating a low level of innovation among SMEs. Moreover, the World Bank's Ease of Doing Business Report (2020) ranks Nigeria 131st out of 190 economies, highlighting the challenges that SMEs face in operating and growing their businesses. These figures suggest that the existing measures have not been sufficient in addressing the root causes of SMEs' underperformance in Nigeria. This stagnation affects the broader economy by limiting job creation, reducing contributions to GDP, and curtailing overall economic growth. The

persistent underperformance of SMEs poses a significant threat to economic stability and development in Nasarawa State.

Given the critical role that SMEs play in driving economic growth and development, their continued underperformance poses a significant threat to the Nigerian economy. While several studies have examined the challenges faced by SMEs in Nigeria and proposed various strategies to address them, there is still a need for more targeted and context-specific research. This study aims to fill this gap by focusing on the impact of market innovation on SMEs' performance in Lafia, Nasarawa State. By examining how factors such as new product/service introduction, technology adoption, and start-up hubs influence SMEs' performance in this specific context, this study seeks to provide valuable insights and recommendations that can inform policy and practice by answering these questions.

iv. What impact does new product/service introduction have on the performance of SMEs in Lafia, Nasarawa State?
v. How has Technology adoption influenced the performance of SMEs in Lafia, Nasarawa State?
vi. To what extent does Start-up hubs impact on the performance of SMEs in Lafia, Nasarawa State?

Based on the highlighted questions, the following hypotheses were raised and tested:

H_{01}: New product/service introduction has no significant impact on the performance of SMEs in Lafia, Nasarawa State.

H_{02}: Technology adoption has no significant impact on the performance of SMEs in Lafia, Nasarawa State.

H_{03}: Start-up hubs have no significant impact on the performance of SMEs in Lafia, Nasarawa State.

LITERATURE REVIEW

Market Innovation

Market innovation encompasses a range of activities that firms engage in to develop new markets or expand existing ones through novel products, services, and processes. These activities are crucial for businesses seeking to maintain competitiveness and achieve growth in rapidly changing economic landscapes. Market innovation can be dissected into several key components: New Product/Service Introduction (NPSI), Technology Adoption (TA), and the establishment of Start-Up Hubs (SUH), each contributing uniquely to the dynamics of business evolution and market competitiveness (Efobi, Olurinola, & Alege, 2015).

New Product (NP)

New Product is defined as the process through which new products or services are developed and introduced into the market. This aspect of market innovation is vital as it allows firms to meet changing consumer demands and to differentiate themselves from competitors. According to Tidd and Bessant (2018), NPSI not only involves the actual product creation but also the ability to effectively bring it to market and gain market share. The introduction of new products or services often requires significant investment in research and development (R&D) but is considered essential for the long-term sustainability of a business.

Technology Adoption (TA)

Technology adoption is another critical component of market innovation. It refers to the process by which new technologies are embraced by firms and integrated into their existing operations to enhance efficiency, productivity, and competitiveness. Damanpour and Aravind (2012) describe technology adoption as critical for firms aiming to improve process efficiencies and outputs. The rapid pace of technological change means that continuous investment in new technologies is often necessary to maintain a competitive edge. In practice, this can involve adopting cutting-edge manufacturing technologies, digital tools, or even artificial intelligence and machine learning to streamline operations and enhance decision-making processes.

Start-Up Hubs (SUH)

Start-Up Hubs are ecosystems that support the rapid growth of startups and entrepreneurial ventures through resources like co-working spaces, mentoring, and access to capital and networks. The concept

of start-up hubs is increasingly recognized as a significant driver of market innovation, particularly in the technology sector. Autio, Nambisan, Thomas, and Wright (2018) note that start-up hubs act as catalysts for innovation by providing a concentrated space where ideas, skills, and capital can intersect to create new products, services, and technologies. These hubs are often situated in urban areas and are crucial in fostering collaborations that lead to innovation.

These components of market innovation are interconnected, each playing a strategic role in the overarching goal of enhancing business growth and market presence. While NPSI focuses on the output of innovation, TA enhances the processes that lead to innovation, and SUH provides the environment that nurtures the early stages of innovative ideas. Understanding these elements offers insights into how businesses can strategically approach innovation to optimize performance and competitiveness.

SMEs performance
SMEs performance is a multifaceted concept that is essential to understanding the overall health and growth patterns of small and medium-sized enterprises. Performance metrics such as business expansion, market share, employment generation, innovation, profitability, and sales growth provide a comprehensive view of an SME's operational and strategic successes.

Business expansion is an aspect of SME performance which refers to an enterprise's ability to increase its operational footprint either through geographic diversification, new market penetration, or the expansion of its product lines. Business expansion is often seen as a vital indicator of an SME's growth potential and ability to scale effectively. It involves not just increasing the physical presence but also enhancing the scope of business activities and customer base. As noted by Bridge and O'Neill (2013), successful business expansion can lead to economies of scale, which potentially reduce costs and increase profitability.

Gaining and maintaining market share is critical for the survival and competitiveness of SMEs. Market share is a direct indicator of how well an SME is performing relative to its competitors. It reflects the enterprise's ability to attract and retain customers in the face of competitive pressures. As SMEs increase their market share, they often achieve improved brand recognition and customer loyalty, which are crucial for long-term success (Porter, 2014).

SMEs are considered significant contributors to job creation, particularly in emerging economies. The ability of an SME to generate employment is indicative of its growth and stability; it also reflects positively on its capacity to contribute to economic development. According to a report by the International Labour Organization (2019), SMEs account for a majority of new jobs in many economies, highlighting their role as engines of employment growth.

Profitability is a financial measure which is crucial for assessing the economic health of SMEs. Profitability reflects the ability of a company to generate earnings as compared to its expenses and other relevant costs incurred during a specific period. A profitable SME is not only able to sustain its operations but can also reinvest in its growth and return value to its shareholders. Profitability is often used as a primary measure of success for SMEs, indicating efficient management and operational effectiveness.
Sales growth is a vital performance indicator for SMEs, reflecting the enterprise's ability to increase its revenue over a specific period. Consistent sales growth is often a strong indicator of customer demand and market acceptance of an SME's products or services. It provides essential capital that fuels further investment in technology, human resources, and business expansion.

Empirical Review
In exploring the impact of market innovation on SME performance, several studies provide insight into how different components of innovation influence various performance metrics of small and medium enterprises.

One such study by Radas and Božić (2015) investigated the correlation between innovation and the performance of SMEs in the creative sector. Utilizing a sample of SMEs from Croatia, the authors used a regression analysis to measure the impact of innovation proxies (introduction of new products and adoption of new technologies) on business performance indicators such as sales growth and market share expansion. They found that SMEs which actively introduced new products or adopted new technologies exhibited significantly better performance in terms of increased sales and market share. This study emphasizes the positive relationship between market innovation and business success, supporting the idea that continuous innovation is crucial for SMEs in maintaining competitiveness and achieving growth. However, a limitation of this study lies in its focus on the creative sector, which may not fully represent other sectors where innovation dynamics could differ.

Koellinger (2015) conducted a study across several European countries to analyze the impact of digital technology adoption among SMEs on their economic performance. Using data collected from thousands of SMEs across the European Union, Koellinger applied structural equation modeling to assess the relationships between technology adoption (independent variable) and several performance indicators (dependent variables), including profitability, market expansion, and employment growth. The results revealed that SMEs that embraced digital technologies experienced significantly enhanced profitability and were more likely to expand both their market reach and workforce. This study strongly supports the notion that technology adoption acts as a critical lever for improving SME performance. However, the research has been critiqued for its broad categorization of digital technologies, which might mask the varied impacts of different technologies on specific types of SMEs.

Study by Saunila, et al. (2018) focused on the performance impacts of innovation activities within manufacturing SMEs in Finland. The researchers used a balanced scorecard approach to evaluate how new product and service introductions, alongside process innovations (proxies for market innovation), influenced the operational, financial, and strategic performance of SMEs. The study found a positive association between comprehensive innovation activities and the overall performance of SMEs, suggesting that innovation enhances operational efficiencies, boosts financial results, and supports strategic objectives. While the findings are compelling, the study's limitation lies in its focus on manufacturing SMEs, potentially overlooking how service-oriented or mixed-sector SMEs might respond differently to similar innovation activities.

Aparicio, et al. (2023) conducted a longitudinal study analysing the impact of innovation-driven entrepreneurial activities on SME performance in Latin America. The study utilized a panel data approach to track innovation activities, including new product introduction and technology adoption, over several years. This approach helped to assess how consistent engagement with innovation influences SME growth metrics such as sales and market expansion. The findings indicated that sustained innovative practices significantly contributed to long-term business growth and stability, demonstrating that continual innovation is crucial for maintaining competitive advantages in volatile markets. The research was praised for its methodological rigor and longitudinal design, which provided a clearer causal relationship between innovation and SME performance. However, critics have pointed out that the cultural and economic specificity of Latin American markets might limit the generalizability of the findings to other global contexts.

Study by Oluwatobi, et al. (2015) specifically focused on the role of innovation in the manufacturing sector of Nigeria. They utilized data from the World Bank Enterprise Surveys to examine how technology adoption and new product introduction influence the operational and financial performance of manufacturing SMEs. The study employed regression analysis techniques to parse out the effects of these innovation activities on firm productivity and market expansion. Their results indicate a positive and significant relationship between technology adoption, product innovation, and improved firm performance metrics such as production efficiency and market reach. This suggests that Nigerian SMEs in the manufacturing sector can significantly benefit from engaging in innovative practices. However,

the study's focus on the manufacturing sector alone may not capture the diversity of SME activities across different sectors like services or agriculture, where innovation dynamics could differ.

Maduekwe and Omonona (2016) explored the impact of technological innovation on the performance of SMEs in Nigeria's service sector, specifically in Lagos State. They analyzed how the use of new digital tools and services (like mobile technology and cloud computing) impacts business growth and customer base expansion. Using a structured questionnaire distributed to a sample of service-oriented SMEs, their analysis revealed that those SMEs that embraced technological innovations reported higher sales growth and customer satisfaction rates compared to those that did not. This study emphasizes the critical role that technology plays in enhancing the competitiveness and operational performance of service-based SMEs in Nigeria. The criticism here lies in the potential bias of self-reported data, which might affect the reliability of the findings.

Ajagbe et al. (2019) explored the impact of innovation on SMEs in the ICT sector of Nigeria. The study utilized a combination of surveys and interviews with managers and owners of ICT firms across several states in Nigeria to determine how introducing new products and adopting advanced technologies affected their operational and financial outcomes. The quantitative data were analyzed using statistical techniques to establish correlations between innovation activities and performance indicators such as revenue growth and profitability. Findings from the study demonstrated a strong positive relationship between engaging in innovation and improved business performance among ICT SMEs. This study contributes valuable insights into the positive impacts of innovation in the rapidly evolving ICT sector. However, the study's reliance on self-reported data may lead to biases in the findings, which is a common critique in survey-based research.

Okolo, et al. (2022) focused on the food and beverage sector in Nigeria, examining how startups within this industry leverage startup hubs and technology adoption to enhance their performance. This study, conducted in Lagos and Abuja, analysed data collected from various startups involved in food processing and distribution. The researchers used a mixed-method approach, incorporating both qualitative interviews and quantitative survey data to assess the role of technological innovations in operational efficiency and market competitiveness. The findings indicated that startups that utilized services and support from startup hubs, and who were proactive in adopting new technologies, showed significant improvements in production efficiency and market reach. While the study highlights the potential benefits of startup hubs and technology in fostering innovation, it is limited by its focus on startups only, potentially overlooking established SMEs that might experience different impacts from such innovations.

Disruptive Innovation Theory
One of the pivotal theories related to market innovation is Clayton Christensen's Disruptive Innovation Theory, which he introduced in his 1997 book, "The Innovator's Dilemma." This theory proposes that companies can succeed by either developing new markets or by offering simpler, more affordable solutions that appeal to less demanding or overlooked customers, thus disrupting established markets.
Christensen's theory asserts that incumbents often focus on improving products and services for their most profitable customers, potentially ignoring the needs of other segments. This focus on high-end improvement can lead to the overlooking of new technologies that meet more basic needs at a lower cost, which eventually evolves to match or surpass the performance of traditional offerings. Over time, these disruptive innovations can replace established products, leading companies that adopted the disruptive technology to move upmarket and challenge incumbents.

One of the strengths of Disruptive Innovation Theory is its predictive power regarding how small companies with fewer resources can successfully challenge large, well-established firms. It has been used to understand various industries' transformations, from personal computers disrupting mainframes and minicomputers to budget airlines transforming the airline industry. However, the theory has also faced criticism. Critics, such as Jill Lepore in a 2014 "New Yorker" article, argue that Christensen's theory is overly simplistic and based on selective case studies that do not account for complex, real-world variables

that influence business success or failure. Critics also point out that not all disruptions lead to success, and that disruption as a strategy can be risky and does not guarantee market capture.

In the context of the current study on the impact of market innovation on SMEs performance in Lafia, Nasarawa State, Christensen's theory helps to explain how embracing new, potentially disruptive technologies and practices, such as digital tools or innovative business models introduced by start-ups, can enable smaller enterprises to carve out new market niches or outcompete entrenched players. For SMEs, applying disruptive innovation can be a pathway to gain competitive advantages, increase market share, and improve overall performance by meeting untapped customer needs or offering more accessible products and services.

METHODOLOGY

The study utilized a survey research design to investigate the impact of market innovation on SME performance specifically in Lafia, Nasarawa State. This design enabled the researchers to collect extensive data efficiently from a targeted group of SMEs through structured questionnaires. By focusing on variables such as technology adoption, new product or service introduction, and the influence of start-up hubs, the survey provided a quantitative basis for assessing how these factors affect SMEs' operational effectiveness and growth. This method is advantageous in deriving statistically significant results that reflect the specific economic and entrepreneurial landscape of Lafia, facilitating tailored policy recommendations and strategic insights for local business development.

The target population for this study comprises registered SMEs in Lafia, Nasarawa State, which are actively engaged in various sectors such as manufacturing, services, and technology, and their total population is 9722. These businesses have either previously implemented market innovations or are currently adopting new products, services, or technologies. The selection of SMEs within Lafia was strategic, aiming to encompass a broad spectrum of the local business community engaged in innovative practices. The study specifically focused on SMEs that are recognized for their contributions to the local economy and have a track record of market innovation. This approach ensures a comprehensive analysis of the impact of market innovations on SME performance in the region.

A stratified random sampling technique was meticulously employed to ensure a comprehensive and representative data collection process, given the heterogeneity of the target population of registered SMEs in Lafia. This method is particularly valuable in studies where the population encompasses diverse groups with distinct characteristics, emblematic of the variety of SME sectors such as manufacturing, services, and technology. The initial step involved dividing the entire heterogeneous population of SMEs into smaller, more homogenous groups based on their industry sector—specifically manufacturing, services, and technology. This categorization acknowledges the unique pathways through which market innovation impacts SME performance in each sector. Following the establishment of these strata, units were then randomly selected from each group to participate in the study.

Using the Taro Yamane formula, the sample size was determined as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where

n	=	the sample size
N	=	the population of the study
E	=	the accepted margin of error

Therefore, $$n = \frac{9722}{1 + 9722(0.05)^2} = 384$$

The study designed a questionnaire for data collection purposes, targeting registered SMEs in Lafia. To ensure a comprehensive and unbiased representation of the diverse business sectors within the target

population, participants were selected through a stratified random sampling method. The questionnaire was structured with closed-ended questions, making it straightforward and efficient to gather data from SMEs across various sectors such as manufacturing, services, and technology. The questionnaire meticulously incorporated variables directly pertinent to the study's core objectives, focusing on aspects such as market innovation adoption, business performance metrics like sales growth and profitability, and the impact of innovation on competitive advantage. These variables were quantitatively measured using interval scales articulated through a five-point Likert scale approach. The options presented in the Likert scale ranged from "strongly agree" to "strongly disagree," assigned with respective numerical values from 5 down to 1. This scale allowed respondents to express their degree of agreement or disagreement with statements concerning the impacts of market innovation on their business operations, providing nuanced insights into the perceived benefits of these innovations.

The research paper strategically implemented ordinal logistic regression (OLR) analysis as a core statistical method to scrutinize the research questions and achieve the outlined objectives effectively. The adoption of OLR analysis facilitated a sophisticated examination of the relationship between market innovation activities (as independent variables) such as new product introduction, technology adoption, and involvement in startup hubs, and their consequent impact on SME performance (as the dependent variable) in terms of profitability, market share, and growth metrics among the SMEs in Lafia. The study utilized the OLR regression to calculate the coefficients of a linear equation that incorporated several independent variables, specifically focusing on the types of innovation and the scale of adoption, alongside external factors like market conditions and regulatory environment. The purpose was to discern which of these variables most accurately predicts variations in SME performance. Through the regression equation, the research aimed to establish a statistically significant association between innovative practices and the performance levels of SMEs. By reporting the coefficients, odds ratios, and P-values derived from the OLR analysis, the researchers provided a comprehensive and quantified insight into the strength and significance of the relationships between the studied variables.

The formulated model specifications were utilized to test three hypotheses, which are presented as follows:

$$SMEP = \ln\left(\frac{Cp_j}{1-Cp_j}\right) = \eta_0 + \eta_1 NPSI + \eta_2 TA + \eta_3 SUH + \varepsilon_t$$

Where;

SMEP = SMEs Performance
NPSI = New product/service introduction
TA = Technology adoption
SUH = Start-up hubs

η_0 = The autonomous parameter estimates (Intercept or constant)

$\eta_1 - \eta_3$ = Parameter coefficients of marketing innovations

ε_t = Random variable (Residual error term)

j is the jth ordered category

p_j is the probability of being in category j

Cp_j is the cumulative probability of being in any category compared to all higher order categories. That is, cumulative probability of being in category j or lower.

$\dfrac{Cp_j}{1-Cp_j}$ is the cumulative odds ratio

$1-Cp_j$ Probability of being above category j

RESULTS AND DISCUSSION
Descriptive Statistics
Descriptive statistics are essential for summarizing and describing the basic features of data in a study. They provide simple summaries about the sample and the measures, offering insights into the central tendency, dispersion, and shape of the distribution of the dataset. In this discussion, we will interpret the descriptive statistics results for the variables related to SMEs performance in Lafia, Nasarawa State, specifically focusing on SME performance (SMEP), new product/service introduction (NPSI), technology adoption (TA), and start-up hubs (SUH).

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
SMEP	3.965239	0.840935	-0.617299	3.290026	26.60474	0.000002
NPSI	3.701511	0.798039	-0.583687	3.191022	23.14592	0.000009
TA	3.630730	0.916384	-0.582390	2.888617	22.64750	0.000012
SUH	3.922418	0.874571	2.180760	26.26385	9267.132	0.000000

Source: Researcher's Computation Using Micro-fit (2024)

The mean value of SMEP is 3.965239, indicating that, on average, respondents tend to agree that their SMEs have performed well. The standard deviation of 0.840935 suggests a moderate level of variability in the responses, meaning that while most respondents' experiences are close to the mean, there is some variation. The negative skewness (-0.617299) indicates that the distribution of SME performance scores is slightly skewed to the left, meaning there are more respondents with higher performance scores. The kurtosis value of 3.290026 is close to the normal distribution (which has a kurtosis of 3), indicating a fairly normal distribution with a slight peak. The Jarque-Bera statistic of 26.60474, with a probability of 0.000002, indicates that the data are not normally distributed.

The mean value of New Product/Service Introduction (NPSI) is 3.701511, suggesting that respondents generally agree that their SMEs frequently introduce new products or services. The standard deviation is 0.798039, indicating moderate variability in the responses. The skewness of -0.583687 shows a slight left skew, implying that more respondents lean towards agreeing that their businesses introduce new products/services. The kurtosis value of 3.191022 indicates a distribution that is nearly normal but slightly peaked. The Jarque-Bera statistic of 23.14592, with a probability of 0.000009, confirms that the data significantly deviate from a normal distribution.

For technology adoption (TA), the mean is 3.630730, indicating that on average, respondents agree that their SMEs adopt new technologies. The standard deviation of 0.916384 reflects moderate variability in the responses. The skewness value of -0.582390 suggests a slight left skew, similar to the previous variables, indicating a tendency towards agreeing on technology adoption. The kurtosis of 2.888617 is slightly less than 3, indicating a distribution that is somewhat flatter than a normal distribution. The Jarque-Bera statistic of 22.64750, with a probability of 0.000012, shows that the data are not normally distributed.

The mean value for Start-Up Hubs (SUH) is 3.922418, showing that respondents generally agree that start-up hubs play a significant role in their SMEs. The standard deviation of 0.874571 indicates moderate variability among responses. The skewness of 2.180760 is notably positive, indicating a right skew, which means there are a few responses with very high agreement levels on the role of start-up hubs. The high kurtosis value of 26.26385 suggests a highly peaked distribution, indicating that most responses are clustered around the mean with few extreme values. The Jarque-Bera statistic of 9267.132, with a probability of 0.000000, indicates a significant deviation from normality.

Ordinal Regression Results
Ordinal regression analysis helps understand the relationship between independent variables (such as market innovation components) and an ordinal dependent variable (such as SME performance). The

table presents the results of the ordinal regression analysis for the study on the impact of market innovation on SMEs performance in Lafia, Nasarawa State.

Table 2: Ordinal Regression Parameter Estimate
Method: ML - Ordered Logit (Newton-Raphson / Marquardt steps)
Dependent Variable: Performance of SMEP

Variable	Coefficient	Odd Ratio	Std. Error	z-Statistic	Prob.
NPSI	0.3100	1.3634	0.1414	2.1924	0.0283
TA	0.1915	1.1962	0.0334	5.7208	0.0000
SUH	0.1169	1.1240	0.0301	3.8825	0.0001
Limit Points					
LIMIT_2:C(6)	3.4328	30.9632	0.6570	5.2252	0.0000
LIMIT_3:C(7)	5.7282	307.415	0.6697	8.5537	0.0000
LIMIT_4:C(8)	8.2543	3844.12	0.7384	11.1788	0.0000
LIMIT_5:C(9)	11.9302	151781.9	0.8556	13.9440	0.0000
Model Fit					
Pseudo R-squared	0.5645				
LR statistic	157.51				
Prob (LR statistic)	0.0000				

Source: Researcher's Computation Using Micro-fit (2024)

New Product/Service Introduction (NPSI)
The coefficient for NPSI is 0.31, indicating a positive relationship between new product/service introduction and SME performance. This suggests that as SMEs increasingly introduce new products or services, their performance improves. The odds ratio of 1.3634 means that for each unit increase in NPSI, the odds of higher SME performance increase by approximately 36.34%, holding other variables constant. The z-statistic of 2.1924 and the probability value of 0.0283 indicate that the relationship is statistically significant at the 5% significance level. This result underscores the importance of continuous product or service innovation in enhancing SME performance.

Technology Adoption (TA)
For technology adoption, the coefficient is 0.1915, also showing a positive relationship with SME performance. This implies that adopting new technologies is associated with improved performance among SMEs. The odds ratio of 1.1962 indicates that for each unit increase in technology adoption, the odds of better SME performance increase by approximately 19.62%. The z-statistic of 5.7208 is quite high, and the probability value of 0.0000 shows a highly significant relationship at the 1% significance level. This finding highlights the critical role of technology adoption in driving the success and growth of SMEs, reinforcing the need for technological investments.

Start-Up Hubs (SUH)
The coefficient for start-up hubs is 0.1169, which also points to a positive impact on SME performance. This suggests that participation in start-up hubs contributes to better performance outcomes for SMEs. The odds ratio of 1.124 indicates that for each unit increase in involvement with start-up hubs, the odds of enhanced SME performance increase by approximately 12.4%. The z-statistic of 3.8825 and the probability value of 0.0001 indicate that this relationship is statistically significant at the 1% level. This result emphasizes the value of start-up hubs in providing resources, networking opportunities, and support that can boost SME performance.

Statistical Test of Hypotheses
The test statistic the study used is the z-statistics and the associated p-value from the Ordinal Logistic Regression (OLR) estimated result: In the current study examining the impact of market innovation on SMEs performance in Lafia, Nasarawa State, the z-statistics and their associated p-values derived from

the OLR estimation results were instrumental in testing the stated hypotheses. The established significance threshold was set at the 5% level (utilizing a two-tailed test). Leveraging the z-statistics, which are based on the coefficients obtained from the OLR model, the study scrutinized the individual significance of each market innovation variable. These statistical measures—z-statistics and p-values—were pivotal in determining the influence of each independent variable, namely New Product/Service Introduction (NPSI), Technology Adoption (TA), and Start-Up Hubs (SUH), on the dependent variable, which is SMEs performance. The evaluation of each hypothesis was contingent upon the p-value (PV). If the PV was less than 5%, or 0.05 (indicating $PV < 0.05$), it was concluded that the effect of the corresponding market innovation variable on SMEs performance is statistically significant at the 5% level. Conversely, a PV greater than 5% would indicate that the variable's impact is not statistically significant.

Table 3: Summary of OLR Statistical Test of Hypotheses Result

Variable	z-Statistic	Prob.
NPSI	2.1924	0.0283
TA	5.7208	0.0000
SUH	3.8825	0.0001

Source: Researcher's Computation Using Micro-fit (2024)

Test of Hypothesis One
H_{01}: New product/service introduction has no significant impact on the performance of SMEs in Lafia, Nasarawa State.

The z-statistic for NPSI is 2.1924, and the associated p-value is 0.0283. Since the p-value (0.0283) is less than the significance threshold of 0.05, we reject the null hypothesis $H01$. This indicates that the introduction of new products or services has a significant impact on the performance of SMEs in Lafia. The positive z-statistic further suggests that NPSI positively influences SME performance, meaning that SMEs engaging in new product/service introductions tend to perform better.

Test of Hypothesis Two
H_{02}: Technology adoption has no significant impact on the performance of SMEs in Lafia, Nasarawa State**.**

The z-statistic for TA is 5.7208, with an associated p-value of 0.0000. Given that the p-value is significantly lower than 0.05, we reject the null hypothesis $H02$. This result clearly shows that technology adoption has a highly significant impact on SME performance in Lafia. The substantial z-statistic indicates a strong positive relationship, implying that SMEs that adopt new technologies experience notable improvements in their performance.

Test of Hypothesis Three
H_{03}: Start-up hubs have no significant impact on the performance of SMEs in Lafia, Nasarawa State.
For SUH, the z-statistic is 3.8825, and the corresponding p-value is 0.0001. Since the p-value is much less than 0.05, we reject the null hypothesis $H03$. This signifies that participation in start-up hubs has a significant positive impact on the performance of SMEs in Lafia. The high z-statistic supports the conclusion that engagement with start-up hubs enhances SME performance, due to the resources, networking opportunities, and support provided by these hubs.

Discussion of findings
Findings from the study revealed that new product/service introduction (NPSI) has a positive and significant impact on the performance of SMEs in Lafia, Nasarawa State. This indicates that SMEs that frequently introduce new products or services tend to perform better, showcasing improved sales growth, market share, and overall business success. The positive impact of NPSI aligns with the findings of Radas and Božić (2015), who demonstrated that continuous product innovation is essential for

maintaining competitiveness and achieving business growth in dynamic markets. Similarly, studies by Saunila, et al. (2018) corroborate these results, emphasizing that SMEs that invest in new product development can better adapt to changing consumer preferences and market conditions, thereby enhancing their performance and sustainability.

Furthermore, the study found that technology adoption (TA) also has a positive and significant impact on the performance of SMEs in Lafia. This finding suggests that SMEs that incorporate new technologies into their operations experience significant improvements in efficiency, productivity, and market competitiveness. This result is consistent with the research by Koellinger (2015), which found that technology adoption enhances business processes and facilitates better decision-making, ultimately leading to superior business outcomes. Moreover, studies by Aparicio, et al. (2023) highlight the critical role of information technology in driving business innovation and performance, further supporting the positive relationship between technology adoption and SME success.

Lastly, findings from the study revealed that start-up hubs (SUH) have a positive and significant impact on the performance of SMEs in Lafia, Nasarawa State. This indicates that SMEs that engage with start-up hubs benefit from improved performance measure such as enhanced market presence, increased sales, and greater operational efficiency. The positive influence of start-up hubs aligns with previous research by Okolo, et al. (2022) who found that start-up hubs provide critical resources such as mentorship, networking opportunities, and access to funding, which are essential for fostering innovation and business growth. These hubs create an environment that supports entrepreneurial activities, allowing SMEs to thrive and scale more effectively.

CONCLUSION AND RECOMMENDATIONS

In conclusion, the study effectively demonstrates the significant positive impact of market innovation on the performance of SMEs in Lafia, Nasarawa State. The main objective was to assess how new product/service introduction, technology adoption, and start-up hubs influence SME performance. The findings indicate that SMEs engaging in these innovative practices achieve better operational and financial outcomes. Specifically, the introduction of new products or services fosters growth and market adaptability. Technology adoption enhances efficiency and competitiveness, while participation in start-up hubs provides critical resources and networking opportunities. These insights underscore the necessity of fostering an innovative environment to drive SME success. The significant relationships observed in this study align with global research, highlighting the universal importance of market innovation for SME performance. Consequently, SMEs in Lafia should continue to leverage these innovations to maintain competitiveness and achieve sustainable growth.

To further enhance the performance of SMEs in Lafia, Nasarawa State, specific recommendations should be implemented based on the positive outcomes observed from market innovation practices.

i.   SMEs should be encouraged and supported to consistently introduce new products and services. This can be achieved through government and private sector partnerships that provide funding and resources for research and development (R&D). Establishing local innovation hubs or incubators that focus on product development can provide SMEs with the necessary tools, expertise, and financial support to explore and launch new offerings. Additionally, organizing regular workshops and training sessions on market trends and customer feedback analysis will help SMEs stay ahead of the curve in meeting consumer demands.

ii.   To maximize the benefits of technology adoption, there should be increased access to affordable and advanced technological tools. This can be facilitated by offering subsidies or tax incentives for technology purchases and upgrades. Creating a robust infrastructure for internet connectivity and digital literacy programs will further ensure that SMEs can efficiently integrate new technologies into their operations. Collaboration with tech companies to provide tailored solutions and continuous technical support will help SMEs to seamlessly adopt and utilize technology, thereby improving their productivity and competitiveness.

iii. Enhancing the role of start-up hubs is crucial for SME development. Local governments and private investors should invest in the establishment and expansion of these hubs to create more opportunities for SMEs to access mentorship, networking, and financial resources. Programs that connect SMEs with successful entrepreneurs and industry experts can provide invaluable guidance and support. Additionally, fostering a collaborative environment within these hubs can lead to the sharing of best practices and innovative ideas. Regularly hosting business fairs, innovation contests, and networking events will encourage SMEs to engage more actively with the entrepreneurial ecosystem, driving collective growth and success.

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Questionnaire

	Item	SA	A	U	D	SD
New Product/Service Introduction (NPSI)	1. My business frequently introduces new products or services.					
	2. We allocate a significant portion of our budget to developing new products/services.					
	3. Our company encourages feedback from customers for new product/service development.					
	4. We actively monitor market trends to identify opportunities for new products/services.					
	5. The introduction of new products/services is a key priority in our business strategy.					
Technology Adoption (TA)	1. My business regularly invests in new technologies.					
	2. We are quick to adopt emerging technologies relevant to our industry.					
	3. Our employees receive training on new technological tools and systems.					
	4. Technology plays a crucial role in our daily operations.					
	5. We allocate a significant portion of our budget to technology upgrades and maintenance.					
Start-Up Hubs (SUH)	1. My business participates in start-up hubs or incubator programs.					
	2. We benefit from networking opportunities provided by start-up hubs.					
	3. Access to start-up hubs has helped us gain valuable mentorship and advice.					
	4. We regularly attend events and workshops organized by start-up hubs.					
	5. Start-up hubs provide us with access to essential resources and facilities.					
SMEs Performance	1. Our business has experienced growth in sales over the past year.					
	2. We have seen an increase in market share in our industry.					
	3. Our company has been able to expand its operations recently.					
	4. We have increased our workforce in the past year.					
	5. Our profitability has improved compared to previous years.					