



EXAMINING PRODUCT SERVICE INNOVATION AND ITS INFLUENCE ON THE PERFORMANCE OF SMES IN OGUN STATE

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Abstract: This research examines the influence of product service innovation on the success of small and medium-sized enterprises (SMEs) in Ogun State, Nigeria. The study addresses a significant gap in the Nigerian environment by utilising the Resource-Based View and Innovation Diffusion Theory to examine the impact of innovation on SME performance. A descriptive research methodology was employed, sampling SMEs from the three senatorial districts of Ogun State: Central, East, and West. The Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) indicates that Ogun State is home to 31,133 SMEs, accounting for 4.6% of Nigeria's total SMEs. A sample of 1,400 SMEs was selected according to Krejcie and Morgan's sample size selection method. A pilot study involving 140 SMEs in Ibadan produced a reliability coefficient of 0.8, validating the robustness of the research instrument. The findings indicate a robust positive correlation between product service innovation and the performance of SMEs, with the following key indicators: Model 3 of the hierarchical regression produced a R value of 0.970 and an Rsquared of 0.941, signifying that 94.1% of the variance in SME performance can be attributed to innovation strategies, capabilities, and types. Innovation strategies exerted the greatest significant impact ($B = 2.617$, $\text{Beta} = 0.831$, $t = 68.510$, $p < 0.001$), succeeded by innovation capabilities ($B = 0.403$, $\text{Beta} = 0.164$, $t = 13.126$, $p < 0.001$) and innovation type ($B = 0.197$, $\text{Beta} = 0.092$, $t = 12.282$, $p < 0.001$). Small and medium-sized enterprises who implemented effective innovation strategies experienced notable enhancements in their performance indicators. In summary, a cohesive strategy for innovation markedly improves the performance and competitiveness of SMEs in Ogun State. The report advises SMEs to prioritise extensive innovation strategies and consistently enhance their innovation capabilities to maintain growth and market relevance.

Key words: Products, Service, Innovation, Performance and SMEs

1.0 Introduction 1.1 Background

The significance of product and service innovation in enhancing company success is universally recognized. Amid escalating global competition, organizations must always pursue innovation to maintain and enhance their competitive advantage. Research indicates that organizations that actively engage in innovation attain superior financial performance and market positioning (Tidd & Bessant, 2020). Studies demonstrate that innovative firms

attain superior revenue growth and market share expansion relative to less creative firms (Hossain & Swann, 2022). This phenomenon is evident across all sectors, as advancements in technology and consumer expectations drive the creation of creative ways and strategies (Chesbrough, 2021).

In the African context, the importance of innovation in promoting commercial success is also rising. Sub-Saharan Africa is acknowledged for its vibrant entrepreneurial endeavors and growth driven by innovation (Adenuga et al., 2021). The African Development Bank (2022) reports that small and medium-sized enterprises (SMEs) in the region are increasingly employing innovation to address challenges such as resource constraints and volatile market circumstances. Small and medium-sized enterprises must focus innovations in their products and services to differentiate themselves and capitalize on emerging opportunities in regional markets (Ogunyemi, 2023). Nonetheless, the degree to which these innovations influence performance metrics has not been comprehensively examined, particularly in the context of West Africa. Small and medium-sized enterprises (SMEs) in Nigeria significantly influence the economy, contributing substantially to employment and Gross Domestic Product (GDP), as reported by the National Bureau of Statistics (2023). Nigerian small and medium-sized enterprises (SMEs) face considerable challenges, including limited finance access, insufficient infrastructure, and heightened competitive pressures (Afolabi, 2022). Recent study suggests that innovation may significantly contribute to the success of these businesses. Research by Oladele and Egbetokun (2023) indicates that small and medium-sized enterprises (SMEs) who pursue product and service innovations achieve improved operational efficiency and heightened market competitiveness. A more thorough analysis is necessary to understand the specific impacts of various types of innovation on different facets of SME success in Nigeria. This study aims to address this imbalance by examining the relationship between product/service innovation and the success of small and medium-sized enterprises (SMEs) in Nigeria. The aim is to provide valuable insights that can inform policy and strategic decisions to promote the growth and sustainability of SMEs.

1.2 Statement of the Problem

Despite the crucial role of small and medium-sized enterprises (SMEs) in fostering economic development and creating employment opportunities in Nigeria, many of these enterprises face persistent challenges regarding performance and growth. To maintain competitiveness and attain sustainable performance, small and medium-sized enterprises (SMEs) must continually innovate their products and services due to the dynamic nature of the current market (Oladele & Egbetokun, 2023). Current research has extensively analysed the beneficial impacts of product and service innovation on corporate performance, including enhanced financial results and operational efficiencies (Tidd & Bessant, 2020; Hossain & Swann, 2022). Nonetheless, there remains a deficiency in understanding the precise effects of these technologies on SMEs in Nigeria. Recent research highlights that Nigerian small and medium-sized enterprises (SMEs) often have specific challenges, such as inadequate infrastructure, limited funding options, and volatile market conditions. These issues may impede their ability to effectively embrace and benefit from innovative strategies (Afolabi, 2022; National Bureau of Statistics, 2023). Moreover, while some studies indicate that innovation may improve the performance of small and medium-sized enterprises (SMEs), there is a deficiency of thorough analysis regarding the distinct categories of innovation (such as product, service, or process) and their impact on various performance metrics in Nigeria (Oladele & Egbetokun, 2023). This deficiency of comprehension obstructs policymakers and business leaders from formulating targeted strategies that could foster the growth and advancement of small and medium-sized enterprises (SMEs) in the nation. The main objective of this study is to examine the impact of product and

service innovation on the performance of small and medium-sized enterprises (SMEs) in Nigeria. This entails assessing the effects of various innovations on several performance indicators, such as financial outcomes, operational efficiency, and market competitiveness. The study aims to address this gap by providing critical insights that can inform the formulation of policies and strategies to enhance the performance and sustainability of small and medium-sized enterprises (SMEs) in Nigeria.

1.3 Aim and Objectives of the Study

The aim of this study is to investigate the relationship between product service innovation and the performance of small and medium-sized enterprises (SMEs) in three senatorial districts of Ogun State in Nigeria: Ogun Central, Ogun East, and Ogun West. The specific objectives are to:

- i. to explore the relationship between different types of innovation (product, process, and organisational) and the performance of SMEs in the study area.
- ii. To analyse the impact of various innovation strategies (cost leadership, differentiation, and focus strategy) on the performance of SMEs in the study area.
- iii. To investigate the relationship between innovation capabilities (technological, organisational, and marketing capabilities) and the performance of SMEs in the study area.

1.4 Hypotheses

The following hypotheses were tested in this study:

H₀₁: There is no significant relationship between the type of innovation and the performance of SMEs in the study area.

H₀₂: There is no significant relationship between innovation strategies and the performance of SMEs in the study area.

H₀₃: There is no significant relationship between innovation capabilities and the performance of SMEs in the study area.

1.5 Significance of the Study

The study on product service innovation and performance of SMEs in Nigeria has significant implications for academia, policymakers, SME managers, and the broader economy. The research contributes to academic literature and can inform policies for promoting innovation in the SME sector. It can provide valuable managerial insights to SMEs, enhance their competitiveness, and contribute to economic development by promoting job creation, productivity, and growth.

2.0 Literature Review

2.1 Conceptual Review

The correlation between product service innovation (PSI) and the performance of small and medium enterprises (SMEs) has been extensively examined in academic literature. Historically, companies that engage in product or service innovation, or both, are likely to achieve enhanced financial, market, innovation, and operational performance. The influence of PSI on these critical performance metrics may vary based on the characteristics of the product and service offerings, the industry in which the SME functions, and the SME's geographic location. This conceptual analysis seeks to examine the correlation between PSI and profitability, market share, customer happiness, and operational efficiency in the context of SMEs worldwide.

2.1.1 SMEs Performance

Performance review is crucial for small and medium-sized enterprises (SMEs) to enhance their competitiveness and sustainability. Small and medium-sized enterprises (SMEs) can be assessed based on various criteria,

including financial performance, innovation performance, and market performance. This paper analyses the impact of product service innovation on small and medium-sized enterprises (SMEs) in Nigeria, providing a framework for evaluation.

Financial Performance

The financial performance of small and medium-sized enterprises (SMEs) is a vital indicator of their overall health and viability. This category includes profitability, revenue growth, return on investment (ROI), and cost management as criteria. Financial performance signifies the company's ability to generate profits from its business operations and investments. The financial performance of small and medium-sized enterprises (SMEs) is crucial due to their limited resources and the necessity for sustainable growth. Studies demonstrate that innovation, including product service innovation, can significantly enhance financial performance by creating new income streams and improving cost efficiency (Chen et al., 2016; Hitt et al., 2017).

Innovation Performance

Innovation performance refers to the ability of a small and medium-sized enterprises (SME) to develop and implement new products, services, processes, or business models. This performance metric includes the volume of newly introduced products, the speed of innovation, and the ability to adopt emerging technologies. For small and medium-sized enterprises (SMEs), possessing a robust capacity for innovation is essential to distinguish themselves in competitive markets and adeptly respond to changing consumer demands. Performance indicators for innovation are frequently employed to evaluate the efficacy of product service innovation. These metrics directly indicate the firm's capacity for innovation and adaptability (Gault, 2018; Nambisan & Baron, 2009).

Market Performance

Market performance evaluates the competitiveness of a small and medium-sized enterprises (SME) inside its designated target market. Key KPIs include market share, customer acquisition, customer retention, and brand recognition. The market performance of a small and medium-sized enterprise (SME) directly reflects the efficacy of its marketing strategy, customer engagement initiatives, and value offerings. Product service innovation can significantly impact market performance by offering unique and tailored solutions that meet individual customer needs. This can enhance consumer loyalty and broaden market reach (Kotler & Keller, 2016; Prahalad & Hamel, 1990). The three performance dimensions - financial, innovation, market, and operational—are interconnected. Progress in one sector often leads to enhancements in others. Improved innovation performance can lead to superior market performance through the provision of distinctive products, which can later boost financial performance by augmenting sales and profitability. Similarly, improved operational performance can reduce costs and increase financial margins, so contributing to the overall success of the company. In Nigeria, small and medium-sized enterprises (SMEs) face unique challenges, including inadequate infrastructure, limited access to financial resources, and regulatory constraints. These factors can affect the adoption and effectiveness of product service innovations. Nonetheless, there exists a significant potential for great performance improvements via innovation, as evidenced by several empirical studies carried out in other emerging economies (OECD, 2020; UNCTAD, 2020).

2.1.2 Product Service Innovation

Product Service Innovation (PSI) refers to the development of new or improved products and services that address changing consumer demands or leverage technological advancements. Small and medium-sized enterprises (SMEs) significantly benefit from this type of innovation since it allows them to differentiate from

competitors, enhance customer satisfaction, and access new markets (Chesbrough, 2021). The integration of goods and services, referred to as a product-service system, is increasingly recognised as a strategic approach for augmenting value and achieving a competitive advantage (Baines et al., 2020). Small and medium-sized enterprises (SMEs), particularly in developing markets like as Nigeria, often face challenges such limited resources, which might impede their ability to engage in significant research and development (R&D) activities (Adeniyi & Ilesanmi, 2023). Nonetheless, the application of PSI strategies may aid these businesses in enhancing their innovation potential by focussing on incremental improvements and leveraging existing competencies. Akpan and Obi (2022) assert that small and medium-sized enterprises (SMEs) might derive benefits from PSI by creating hybrid solutions that amalgamate physical items with supplementary services. This method augments consumer value and cultivates loyalty.

Product-Service Innovation (PSI) is crucial in the Nigerian market, allowing businesses to adeptly adapt to swift technical progress and evolving consumer tastes. Small and medium-sized enterprises can leverage this talent to create unique products or services that are difficult for competitors to replicate, so securing a sustainable competitive advantage (Afolabi et al., 2023). Furthermore, PSI can lead to enhanced operational efficiencies and reduced costs, as businesses refine their processes for delivering products and services (Oluwaseun et al., 2022).

Innovation Types

Types of innovation include the several categories of innovation that a corporation may actively seek to implement. This often includes product innovation, process innovation, marketing innovation, and organisational innovation (OECD, 2022). Product innovation involves the introduction of new or significantly improved goods or services, whereas process innovation refers to new or markedly upgraded methods of production or delivery. Marketing innovation involves new strategies in product design, packaging, positioning, and promotion, while organisational innovation refers to changes in corporate processes, workplace structure, or external relationships. In the context of small and medium-sized enterprises (SMEs), the significance of product and service innovations is particularly pronounced, as they directly impact the core offerings of the company (Tidd & Bessant, 2018). Product innovation may lead to the development of new commodities that satisfy unmet market needs or improve the quality and attributes of existing products. Service innovation, on the other hand, include new approaches to service delivery or enhancements to the client experience (Oke, 2007).

The categories of innovation are not mutually exclusive and often demonstrate overlap. The launch of a new product may require alterations in production methods (process innovation) or the adoption of novel marketing strategies (marketing innovation) to effectively enter the market. Understanding and employing several types of innovation can provide small and medium-sized enterprises (SMEs) a holistic approach to improve their competitive position and performance (Hossain & Swann, 2022). In Nigeria, the focus on specific types of innovation can be influenced by industry characteristics, market demands, and the regulatory environment. Service-oriented small and medium enterprises (SMEs) may prioritise service innovation, while manufacturing firms may focus more on process and product innovations (Nwankwo & Onuoha, 2023). The choice of innovation type can be strategic, depending on the firm's resources, competencies, and long-term objectives (Gassmann, Enkel, & Chesbrough, 2023).

Innovation Strategies

Innovation strategies denote the intentional planning and actions undertaken by firms to achieve innovation. Small and medium-sized enterprises (SMEs) can implement effective innovation strategies by collaboration with other companies or research institutions, investment in research and development (R&D), and leveraging consumer feedback for ongoing enhancement (Tidd & Bessant, 2018). Small and medium-sized enterprises (SMEs) often face resource constraints, necessitating the judicious selection of appropriate innovation strategies. Highlighting incremental enhancements can significantly advantage small and medium-sized enterprises (SMEs), allowing them to progressively strengthen their capabilities and market position without necessitating considerable initial investment (Damanpour, 2014).

Innovation Capabilities

Innovation capabilities refer to a company's ability to generate and implement new ideas, processes, or products. This includes both the technical proficiency and understanding of the organisation, as well as the ability to efficiently manage and coordinate innovation initiatives (Egbetokun, 2015). Small and medium-sized enterprises (SMEs) frequently encounter challenges in enhancing their innovative capabilities owing to constrained resources and insufficient knowledge. These attributes are essential for sustaining a competitive advantage and achieving enduring long-term growth. O'Regan, Ghobadian, and Sims (2006) assert that SMEs can enhance their innovation capacity by investing in training, knowledge management systems, and cultivating organisational cultures that promote innovation. Product service innovation, which includes various types, methods, capacities, and intensities of innovation, is essential for the success of small and medium-sized enterprises (SMEs). These elements enable small and medium-sized enterprises (SMEs) to differentiate themselves, enhance customer satisfaction, and achieve sustainable growth. The literature underscores the importance of a holistic approach to innovation, encompassing both product and service dimensions, tailored strategies, strong capabilities, and suitable resource allocation to maintain a competitive edge.

2.2 Theoretical Review

Recently, there has been an increasing acknowledgement in the global business arena of the essential role that innovation plays in fostering sustained growth and competitiveness for small and medium-sized enterprises (SMEs). Thus, researchers have focused their endeavours on comprehending the determinants and ramifications of innovation, specifically regarding product service innovation, in the realm of SMEs. Two significant theories, the Resource-Based View (RBV) and the Innovation Diffusion Theory (IDT), have emerged as essential frameworks for examining product service innovation and the performance of SMEs globally.

Resource-Based View (RBV)

The Resource-Based View (RBV) hypothesis posits that a firm's competitive advantage derives from its ability to efficiently utilise valuable, limited, inimitable, and non-substitutable resources and capabilities (Barney, 1991). The Resource-Based View posits that companies possessing unique resources or capabilities are more inclined to attain superior performance through the execution of effective innovation strategies. The Resource-Based View (RBV) offers critical insights into how small and medium-sized enterprises (SMEs) in Nigeria can optimally leverage their internal resources to foster innovation in their products and services, hence enhancing performance. The Resource-Based View (RBV) underscores the necessity for SMEs to effectively leverage their resources, such as human capital, technological assets, and organisational culture, to foster innovation (Wernerfelt, 1984). Nigerian small and medium-sized enterprises (SMEs) typically face constraints in doing

significant research and development (R&D) owing to resource limits. Nonetheless, with the inventive utilisation of their constrained resources, these enterprises can still conceive and implement innovative product services (Nwankwo et al., 2023). Research demonstrates that SMEs with strong internal resources, including highly skilled personnel and efficient management practices, are better equipped to develop innovative products and services that address evolving market demands (Oluwaseun et al., 2022). The Resource-Based View (RBV) emphasises the importance of dynamic capabilities, which are the resources and competencies that allow firms to adapt and innovate in response to changing conditions (Teece, Pisano, & Shuen, 1997). Enhancing competencies like agile research and development processes and adaptive management systems is crucial for maintaining innovation and improving performance in small and medium-sized enterprises (SMEs) in Nigeria (Adeniyi & Ilesanmi, 2023). The ongoing enhancement of these capabilities can facilitate the successful incorporation of product service innovations into their business models, hence providing a competitive edge and improving market performance (Akpan & Obi, 2022).

Innovation Diffusion Theory (IDT)

Innovation Diffusion Theory (IDT), proposed by Rogers (2003), analyses the processes, motivations, and velocity of the dissemination of new technologies and innovations across individuals and organisations. The IDT framework provides a structured method for understanding the adoption of innovations and the factors influencing their dissemination. This theory is particularly relevant for examining the adoption and implementation of product service innovations by small and medium-sized enterprises (SMEs) in Nigeria.

The innovation adoption process, as delineated by IDT, comprises five stages: awareness, interest, evaluation, trial, and adoption (Rogers, 2003). Nigerian small and medium-sized enterprises (SMEs) must understand these stages to formulate strategies that facilitate the adoption of product service innovations. Recent research by Ojo and Akinyemi (2021) indicates that small and medium-sized enterprises (SMEs) that adeptly manage the adoption of innovations are more inclined to integrate them into their operations and get enhanced performance results. Employing tactics that directly address barriers to technology adoption, such as constrained financial resources and insufficient technical skills, can accelerate the dissemination of innovative solutions within SMEs (Ogunleye et al., 2024). The rate of innovation dissemination is affected by several factors, as delineated by IDT. The variables encompass the perceived characteristics of innovations, including relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). Small and medium-sized enterprises in Nigeria may face challenges related to these qualities in the realm of product service development. Innovations perceived as complex or incompatible with current methods may have diminished adoption rates (Eze & Emeka, 2023). To enhance the dissemination of product service innovations and improve overall SME performance, it is essential to tackle these challenges by optimising innovation processes and showcasing tangible benefits (Chukwuemeka et al., 2024).

2.3 Review of Empirical Studies

Recent study indicates that the introduction of novel or superior products, referred to as product innovations, significantly enhances the market performance of small and medium-sized firms (SMEs). Ojo and Akinyemi (2021) conducted research indicating that Nigerian SMEs implementing product innovations experience an increase in market share and customer satisfaction. Enhancements in processes that focus on optimising operational efficiencies result in superior performance. A study by Akpan and Obi (2022) revealed that SMEs using process innovations reduced costs and improved service delivery, hence gaining a substantial competitive

advantage. The integration of items and services, referred to as product service innovations, is acknowledged as a vital component for the advancement of SMEs in Nigeria. Oluwaseun et al. (2022) discovered that SMEs offering both product and service innovations saw greater customer loyalty and enhanced revenue development than those concentrating solely on items. This hybrid innovation allows SMEs to differentiate their products and services and effectively address specific client needs (Afolabi et al., 2023). Innovation strategies are crucial in assessing the efficacy of innovation initiatives. These strategies may be classified as proactive, reactive, or open. Proactive strategies involve anticipating market trends and developing innovations ahead of competitors. Empirical research by Bessant and Tidd (2022) indicates that small and medium-sized enterprises (SMEs) employing proactive innovation strategies are more inclined to capitalise on market opportunities and achieve superior performance. Conversely, research indicates that reactive methods, which adjust to market fluctuations, are less effective in dynamic markets (Ogunleye et al., 2024). Nigerian small and medium-sized firms (SMEs) can enhance their innovative performance by employing proactive strategies, including the timely adoption of new technologies and comprehensive market research (Ibrahim & Eze, 2023). In recent years, open innovation, involving collaboration with external partners to enhance invention, has gained significant popularity. A study by Gassmann et al. (2023) indicates that SMEs engaged in open innovation are more likely to benefit from external knowledge and resources, leading to enhanced innovation results. In Nigeria, a resource-constrained nation, open innovation methodologies might provide SMEs with access to essential external information and technology, hence augmenting their innovative capacity (Chukwuemeka et al., 2024). Innovation capabilities include the many resources and processes that enable businesses to effectively implement innovations. The competencies include technological expertise, human resource management, and organisational support. Research has shown that technological competences, including as investments in research and development and proficiency in technology, are essential for attaining success in innovation. Adeyemi and Alabi (2023) conducted a study revealing that Nigerian small and medium-sized enterprises (SMEs) with strong technological capabilities displayed enhanced competency in the development and implementation of innovative products and services. The presence of skilled and knowledgeable staff, referred to as human capital, is crucial for fostering innovation. The research by Nwankwo and Onuoha (2023) highlights that SMEs investing in staff training and development experience improved innovation performance and operational efficiency. Organisational support, which includes a culture that promotes creativity and effective management practices, also affects the capacity for innovation. Olaoye et al. (2024) discovered that Nigerian SMEs with supportive organisational cultures and management structures are more adept at fostering innovation and achieving superior performance outcomes. Organisational support enhances the ability of SMEs to effectively implement and scale innovations (Ojo et al., 2023). Innovation intensity refers to the frequency and scale of innovation activities undertaken by companies. Elevated levels of innovation are often associated with improved performance and a competitive advantage. Empirical study indicates a positive association between increased innovation intensity and enhanced performance outcomes. Pereira et al. (2023) found that SMEs that participate in frequent and substantial innovation activities, leading to elevated innovation intensity, achieve improved market success and financial growth. In Nigeria, SMEs that emphasise and allocate resources to innovation are more likely to adeptly respond to market volatility and capitalise on emerging opportunities (Ogunbiyi & Olufemi, 2024). The effective distribution of resources to innovative endeavours is crucial for sustaining a high degree of innovation intensity. Adekunle et al. (2023) demonstrate that Nigerian SMEs who allocate significant resources to innovation-related

endeavours, including research and development (R&D) and market analysis, exhibit heightened innovation and improved performance. Allocating resources to improve innovation infrastructure and optimise processes promotes the continuous development and integration of new products and services (Eze & Emeka, 2023).

Figure 2.1 Conceptual Model

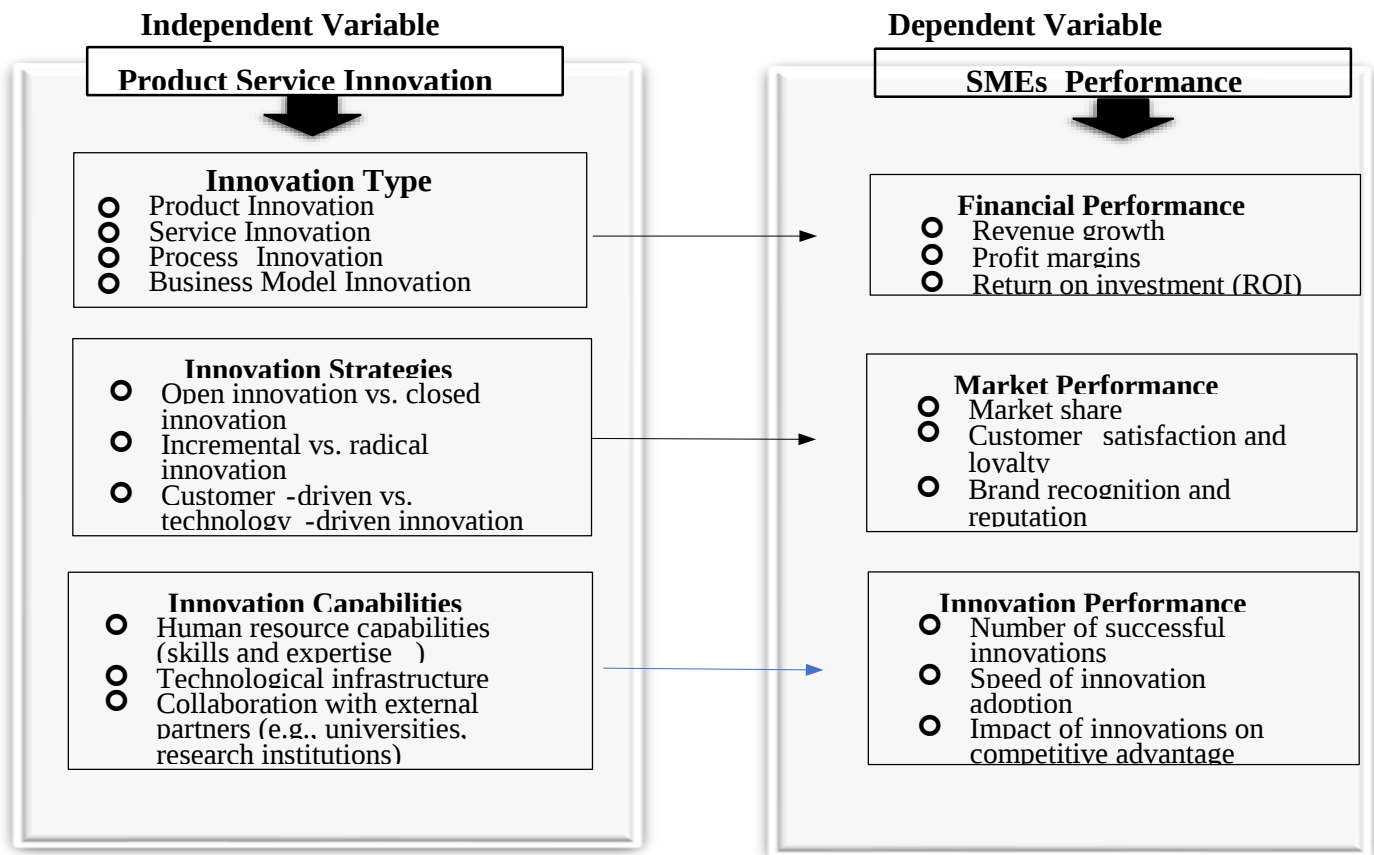


Figure 2.1 illustrates the correlation between the independent variable of product service innovation and the dependent variable of small and medium-sized enterprises (SMEs) performance. This conceptual framework was established following a comprehensive literature review. It demonstrates how changes in one variable can influence the other. The model evaluates product service innovation by examining characteristics such as innovation type, innovation strategies, innovation capabilities, and innovation intensity. Simultaneously, the performance of SMEs is assessed by analysing criteria like financial, market, innovation, and operational performance.

2.5 Summary of Gaps in Literature

The current research identifies multiple gaps on the relationship between product service innovation (PSI) and small and medium-sized enterprises (SMEs) that require additional exploration. Firstly, there is a paucity of research investigating the impact of PSI on the performance of SMEs, resulting in a significant gap in examination. Moreover, the results from recent studies sometimes exhibit inconsistency, resulting in uncertainty over the actual influence of PSI on these firms. Moreover, there is insufficient comprehension of the mechanisms by which PSI influences SME performance, complicating the ability to derive significant results. Furthermore, the particular factors influencing PSI inside SMEs have not been sufficiently examined, constraining our

understanding of the elements that foster innovation in this setting. Ultimately, there has been inadequate examination of the elements that may influence the relationship between PSI and SME performance, underscoring the necessity for a more detailed investigation of these dynamics.

3.0 Methodology

3.1 Research Design

This study employed a descriptive research methodology to investigate the relationship between product service innovation and the performance of small and medium-sized enterprises (SMEs) in Ogun State, encompassing three senatorial districts: Ogun Central, Ogun East, and Ogun West. A descriptive research approach is suitable for this study as it facilitates a comprehensive description and analysis of the current state of innovation practices in small and medium-sized enterprises (SMEs) and their impact on corporate performance (Saunders et al., 2019). This methodology facilitates the systematic collection, analysis, and presentation of data pertaining to the subject.

3.2 Population and Sampling

The research includes all small and medium-sized enterprises (SMEs) situated in Ogun State, Nigeria. The 2021 report from the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) indicates that Ogun State has 31,133 SMEs, representing 4.6% of Nigeria's total of 670,447 SMEs (SMEDAN, 2021). The Krejcie and Morgan (1970) table was employed to determine the appropriate sample size for the study according to the population size. Krejcie and Morgan's table recommends a sample size of 1,400 for a population of 31,133. The selected sample size ensures that the study's results are statistically significant and accurately represent the complete population's characteristics. A stratified random sampling method was utilised to select the sample from the population. This methodology ensures that diverse sectors within the SME community are well represented in the sample, hence increasing the applicability of the study's findings to a wider context (Bryman & Bell, 2015). The SMEs are classified by industry sector, and a random sample is thereafter drawn from each group to form the final sample of 1,400 SMEs.

Pilot Study

A pilot study was conducted in five designated administrative divisions of Ibadan: Oluyole, Ibadan South East, Ibadan South West, Ibadan North, and Ido, encompassing a total of 140 SMEs. The pilot study sought to evaluate the reliability and validity of the research instrument, as well as to identify potential issues with the questionnaire design and data collection methodology. The pilot study produced outstanding feedback, necessitating critical revisions to the questionnaire to enhance its clarity and comprehensiveness (Van Teijlingen & Hundley, 2001). The pilot study produced a reliability coefficient (Cronbach's alpha) of 0.8 for the research instrument, which is considered acceptable. This signifies that the equipment reliably produces consistent data (Nunnally & Bernstein, 1994).

3.3 Description of the Research Instrument

A carefully crafted questionnaire is developed to function as the primary instrument for gathering primary data. The questionnaire was designed to collect data on the extent of product service innovation and its impact on the performance of small and medium-sized enterprises (SMEs). The enquiries were constructed utilising recognised scales that had been corroborated in previous research. The questions were subsequently tailored to align with the particular Nigerian context, guaranteeing its relevance and precision (Hair et al., 2020). Content and construct validity assessments are employed to ensure the precision and dependability of the research

instrument. Content validity is determined by engaging domain experts and conducting a meticulous review of relevant literature to ensure that the questionnaire fully captures all aspects of product service innovation and SME performance (Creswell & Creswell, 2018). Construct validity was evaluated using component analysis to confirm that the questionnaire items accurately represent the intended components (Pallant, 2020).

3.4 Data Collection

Data collection was executed through the administration of a structured questionnaire to a selected sample of small and medium-sized enterprises (SMEs). The questionnaire was distributed using both online and in-person methods to maximise response rates and ensure comprehensive data collection. The data collection process will last six weeks, considered essential for obtaining replies and performing follow-ups (Dillman et al., 2014).

3.5 Data Analysis

The acquired data was examined utilising the Statistical Package for the Social Sciences (SPSS) version 20.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were utilised to summarise the demographic characteristics of the participants and the primary variables of the study (Field, 2018). Inferential statistical techniques, including correlation analysis and regression analysis, are employed to examine the relationships between product service innovation and the success of SMEs. These studies aid in assessing the extent and direction of the relationships and evaluate the study hypotheses (Pallant, 2020). Reliability and validity assessments are conducted to ensure the robustness and accuracy of the research instrument. Reliability analysis, particularly Cronbach's alpha, evaluates the consistency and stability of measures. Factor analysis is utilised to assess the construct validity of the instrument. These assessments are essential for guaranteeing the reliability and validity of the research outcomes (Hair et al., 2020).

Results and Discussion of Findings

4.1 Demographic Data Analysis

The sample consisted of 1,400 small and medium-sized enterprises, chosen to accurately represent the population distribution across the three senatorial districts of Ogun State, Nigeria: Ogun Central, Ogun East, and Ogun West. A complete and equitable demographic representation was therefore assured.

Analysis of Variables

The data analysis elucidates the demographic composition and occupational features of the sample. Males constitute 92.4% of responders, whereas females account for merely 7.6%. The age distribution reveals that the predominant group is aged 41-50 (45.1%), followed by 31-40 (20.4%) and 51-60 (13.3%), signifying a workforce predominantly in medium to senior age brackets. Educational achievement is disproportionately focused on higher education, with 53.4% possessing a Bachelor's degree or Higher National Diploma, 33.4% having a Postgraduate Diploma or Master's degree, and minimal percentages with M.Phil. (2.3%) and Ph.D. (2.1%). Job level study indicates that 68.4% are in middle management, 18.2% in operational management, and 13.4% in top management, reflecting a significant presence of middle management. Concerning tenure, the majority of respondents have held their positions for 6-10 years (59.1%), while a smaller proportion possesses over 16 years of experience (5.6%). This analysis indicates a workforce characterised by considerable mid-level experience and educational qualifications, predominantly within their prime working age.

Table 4.1: Analysis of Variables

Variables	Frequency	Percentage
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Gender		
Male	1294	92.4
Female	106	7.6
Age bracket		
21- 30	131	9.4
31- 40	285	20.4
41- 50	632	45.1
51- 60	186	13.3
61- 65	166	11.9
Educational attainment		
ND/NCE	104	7.4
Bachelor's Degree/HND	747	53.4
PGD/Master's Degree	468	33.4
M.Phil.	32	2.3
Ph.D.	30	2.1
Others	19	1.4
Job level		
Top management	188	13.4
Middle management	957	68.4
Operational management	255	18.2
Length of service		
Below 5yrs	188	13.4
6-10yrs	828	59.1
11-15yrs	306	21.9
16yrs +	78	5.6

Source: Field Work by Researcher, 2024 4.2 Presentation of Data Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.079 ^a	.006	.006	14.03535	.006	8.867	1	1398	.003
2	.966 ^b	.934	.934	3.62308	.928	19582.658	1	1397	.000
3	.970 ^c	.941	.941	3.41950	.007	172.295	1	1396	.000

a. Predictors: (Constant), Innovation Type

b. Predictors: (Constant), Innovation Type, Innovation Strategies

c. Predictors: (Constant), Innovation Type, Innovation Strategies, Innovation Capabilities

The findings of the hierarchical regression model presented in Table 4.2 demonstrate the influence of several innovative drivers on the performance of SMEs in Ogun State, Nigeria. In Model 1, when "Innovation Type" serves as the sole predictor, the model demonstrates a modest correlation with performance, as seen by a R value of 0.79. An R square value of 0.006 indicates that merely 0.6% of the variance in SME performance is attributable to innovation type alone. The F change value of 8.867 and a significance level of 0.003 demonstrate that this association is statistically significant. In Model 2, incorporating "Innovation Strategies" as a predictor significantly enhances the model's explanatory power, with R increasing to 0.966 and R squared to 0.934. The combination of innovation type and tactics accounts for 93.4% of the variance in SME performance. The elevated F change value of 19582.658, accompanied by a significance level of 0.000, underscores the substantial influence of these two predictors on performance. Ultimately, Model 3 integrates "Innovation Capabilities" as an extra predictor, marginally enhancing the model's robustness. The correlation coefficient R is currently 0.970, and the coefficient of determination R square is 0.941, accounting for 94.1% of the variance in performance. The R square change of 0.007 and F change of 172.295, with a significance level of 0.000, indicate that innovation skills contribute a considerable, albeit modest, enhancement to the model. The data indicate that innovation strategies exert the greatest influence on SME performance, but innovation kind and capabilities also significantly contribute to performance enhancement.

Test for Hypotheses Hypothesis 1

Null Hypothesis (H_{01}): There is no significant relationship between the type of innovation and the performance of SMEs in the study area.

Alternative Hypothesis (H_{11}): There is a significant relationship between the type of innovation and the performance of SMEs in the study area.

This was tested using Hierarchical Multiple Regression (HMR) and the test result is presented on Table 4.2.

Test for Hypothesis 1

The hierarchical regression results for Hypothesis 1 indicate a statistically significant link between the type of innovation and SME performance, evidenced by an F-change of 8.867 and a p-value of 0.003, which is below the 0.05 threshold. The R-squared value of 0.006 signifies that innovation type accounts for 0.6% of the variance in SME performance, which is comparatively minimal. Notwithstanding the modest effect size, the significance level ($p < 0.05$) indicates that the type of innovation exerts a quantifiable, however slight, influence on performance. Thus, the researchers reject the null hypothesis (H_{01}) and support the alternative hypothesis (H_{11}), affirming a strong association between innovation type and SME performance in the research area.

Hypothesis 2

Null Hypothesis (H_{02}): There is no significant relationship between innovation strategies and the performance of SMEs in the study area.

Alternative Hypothesis (H_{12}): There is a significant relationship between innovation strategies and the performance of SMEs in the study area.

This was tested using Hierarchical Multiple Regression (HMR) and the test result is presented on Table 4.2.

Test for Hypothesis 2

Hypothesis 2 reveals that the hierarchical regression analysis demonstrates a robust correlation between innovation strategies and SME performance, evidenced by an F-change value of 19,582.658 and a significance level of 0.000, significantly lower than the 0.05 criterion. An Rsquared value of 0.934 indicates that innovation

strategies account for 93.4% of the variance in SME performance, demonstrating substantial explanatory power. The modified R-squared value of 0.934 corroborates that this model well represents the data. Consequently, we dismiss the null hypothesis (H_{02}) and endorse the alternative hypothesis (H_{12}), indicating that a strong and influential relationship exists between innovation strategies and the performance of SMEs in the research area.

Hypothesis 3

Null Hypothesis (H_{03}): There is no significant relationship between innovation capabilities and the performance of SMEs in the study area.

Alternative Hypothesis (H_{13}): There is a significant relationship between innovation capabilities and the performance of SMEs in the study area.

This was tested using Hierarchical Multiple Regression (HMR) and the test result is presented on Table 4.2.

Test for Hypothesis 3

The findings from the hierarchical regression analysis for Hypothesis 3 indicate a substantial correlation between innovation skills and SME performance. The model demonstrates an Rsquared value of 0.941, signifying that innovation capabilities account for 94.1% of the variance in SME performance. The F-change value of 172.295, with a significance level of 0.000, significantly above the 0.05 barrier, so affirming the statistical significance of the link. The corrected R-squared value of 0.941 further substantiates the model's robust fit to the data. Consequently, we dismiss the null hypothesis (H_{03}) and endorse the alternative hypothesis (H_{13}), indicating that a significant and positive correlation exists between innovation skills and the performance of SMEs in the examined region.

Table 4.3: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1746.659	1	1746.659	8.867	.003 ^b
	Residual	275393.555	1398	196.991		
	Total	277140.214	1399			
2	Regression	258802.223	2	129401.111	9857.860	.000 ^c
	Residual	18337.991	1397	13.127		
3	Total	277140.214	1399			
	Regression	260816.857	3	86938.952	7435.160	.000 ^d
	Residual	16323.357	1396	11.693		
	Total	277140.214	1399			

a. Dependent Variable: SMEs Performance

b. Predictors: (Constant), Innovation Type

c. Predictors: (Constant), Innovation Type, Innovation Strategies

d. Predictors: (Constant), Innovation Type, Innovation Strategies, Innovation Capabilities

The ANOVA results for the hierarchical regression analysis presented in Table 4.3 demonstrate a gradual enhancement in model fit with the inclusion of supplementary innovation factors. In Model 1, where "Innovation Type" is the sole predictor, the regression sum of squares (1746.659) is modest in comparison to the residual sum of squares (275393.555), resulting in a mean square of 1746.659 and a F value of 8.867, which is statistically

significant at $p = 0.003$. This indicates that the type of innovation alone exerts a modest yet notable impact on SME performance. Model 2, using "Innovation Strategies" as an additional predictor, demonstrates a notable enhancement in explanatory power, with the regression sum of squares increasing to 258802.223. The mean square has now attained 129401.111, yielding a F value of 9857.860, which is extremely significant ($p = 0.000$). This model accounts for a significant amount of the variance in SME performance, suggesting that innovative tactics considerably improve performance. In Model 3, the incorporation of "Innovation Capabilities" enhances the model, resulting in a regression sum of squares of 260816.857 and a mean square of 86938.952. The F value is significantly high at 7435.160 ($p = 0.000$), indicating that innovative capabilities contribute a substantial, if modest, incremental enhancement. The results indicate that each component of innovation-type, strategies, and capabilities - substantially influences SME performance, with innovation strategies exerting the most significant effect.

Table 4.4: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
1 (Constant)	59.531	1.373		43.357	.000	56.838	62.225
1 Innovation Type	.171	.057	.079	2.978	.003	.058	.283
2 (Constant)	8.989	.604		14.871	.000	-10.175	-7.803
2 Innovation Type	.300	.015	.140	20.254	.000	.271	.329
2 Innovation Strategies		.022	.965	139.93	.000		
3 (Constant)	3.040	.609		8		2.997	3.082
3 Innovation Type	6.208			10.200		-7.402	-5.014
Innovation Strategies	.197	.016	.092	12.282	.000	.166	.228
Innovation Strategies	2.617	.038	.831	68.510	.000	2.542	2.692
Innovation Capabilities	.403	.031	.164	13.126	.000	.343	.463

a. Dependent Variable: SMEs Performance

The hierarchical regression coefficients for forecasting SME success underscore the growing importance of various innovation components as they are incorporated into the model, as illustrated in Table 4.4. In Model 1, where "Innovation Type" serves as the sole predictor, the constant value is 59.531 ($p = 0.000$), and "Innovation Type" exhibits an unstandardised coefficient (B) of 0.171 ($p = 0.003$), signifying a modest yet significant

positive impact on SME performance. This indicates that the type of innovation alone marginally accounts for performance explanation. Model 2 integrates "Innovation Strategies," resulting in a significant enhancement in predictive capability. The constant decreases to -8.989 ($p = 0.000$), whilst the influence of "Innovation Type" intensifies with a coefficient of 0.300 ($p = 0.000$). "Innovation Strategies" exhibits a significant effect, with a B value of 3.040 and a high standardised Beta of 0.965 ($p = 0.000$), highlighting its essential contribution to performance enhancement. In Model 3, the inclusion of "Innovation Capabilities" enhances model fit. The constant is -6.208 ($p = 0.000$), and "Innovation Type" exhibits a somewhat diminished B of 0.197 ($p = 0.000$), indicating its continued contribution to SME performance. "Innovation Strategies" exhibits a significant impact, with a B value of 2.617 and a Beta coefficient of 0.831 ($p = 0.000$). Furthermore, "Innovation Capabilities" provides considerable value, with a B of 0.403 and a Beta of 0.164 ($p = 0.000$), signifying that innovation capabilities meaningfully enhance SME performance, albeit to a lesser extent than strategies. The findings demonstrate that all three dimensions of innovation positively influence SME performance, with innovation strategies exerting the most significant impact, followed by innovation capabilities and innovation type.

4.3 Discussion of Findings

This study's findings provide substantial insights into the influence of various innovation types on SME success in Ogun State, Nigeria. The hierarchical regression findings, corroborated by the ANOVA results, demonstrate that the inclusion of each additional dimension of innovation-type, strategies, and capabilities - augments the model's predictive capacity for SME success. In Model 1, "Innovation Type" demonstrates a moderate yet substantial beneficial effect on performance, indicating that the type of innovation undertaken by SMEs has a quantifiable impact, though constrained when evaluated independently. The low R-squared value in this model indicates a negligible impact on performance. In Model 2, the incorporation of "Innovation Strategies" significantly enhances the model's explanatory capacity, as seen by a considerable rise in Rsquared. The substantial standardised Beta and very significant p-value linked to "Innovation Strategies" suggest that the strategic approach to innovation is a primary determinant of SME performance. This indicates that when SMEs concentrate on structured innovation strategies, they achieve significant performance improvements, underscoring the vital importance of strategy over the type of innovation alone. Ultimately, Model 3 presents "Innovation Capabilities," which augments the model's explanatory efficacy, but to a smaller degree than "Innovation Strategies." This addition indicates that, although possessing effective innovation techniques is crucial, cultivating internal innovation capabilities significantly enhances performance. The coefficients and their significance indicate that each dimension of innovation-type, strategy, and capability - exerts a distinct and cumulative effect, with strategies being the most impactful, followed by capabilities and type. The findings emphasise the necessity for SMEs to embrace diverse types of innovation while prioritising clearly defined innovation strategies and capabilities to optimise performance outcomes. These observations underscore the significance of a multi-faceted approach to innovation in enhancing SME performance in dynamic situations.

5.0 Conclusion 5.1 Summary of Findings

The research sought to investigate the correlation between several facets of innovation and the performance of small and medium-sized enterprises (SMEs) in Ogun State, Nigeria, employing hierarchical regression analysis as the principal analytical technique. In the preliminary analysis, Model 1 concentrated exclusively on the influence of Innovation Type on SME success. The model yielded an R-squared value of 0.006, signifying that Innovation Type accounts for a negligible fraction of the variance in performance results. Notwithstanding its

limited explanatory power, the F-change value of 8.867, with a significance level of 0.003, indicates that Innovation Type exerts a statistically significant influence on performance. Model 2 included both Innovation Type and Innovation Strategies based on these findings. The inclusion significantly enhanced the model's explanatory capacity, resulting in an R-squared value of 0.934. This signifies that the joint influence of these two predictors explains an amazing 93.4% of the variance in performance among SMEs. The F-change value of 9857.860, with a significance level of 0.000, robustly confirms the significance of both Innovation Type and Innovation Strategies in affecting performance. The final model, Model 3, further incorporated Innovation Capabilities along with the preceding characteristics. The R-squared value increased to 0.941, signifying that this model accounts for 94.1% of the variance in SME performance. The F-change value of 7435.160, accompanied by a significance level of 0.000, underscores the substantial influence of the predictors when all three aspects of innovation are analysed collectively. The ANOVA results corresponded with the regression analysis, validating the statistical significance of the revealed associations. In Model 1, the regression sum of squares was 1746.659, which dramatically increased to 258802.223 in Model 2 and further to 260816.857 in Model 3. The findings underscore the increased importance of the predictors as additional factors were incorporated into the study.

5.2 Conclusion

This study's findings provide substantial evidence of the significant correlations between different aspects of innovation and the success of small and medium-sized enterprises (SMEs) in Ogun State, Nigeria. The research has demonstrated, using a comprehensive hierarchical regression analysis, the essential significance of innovation in improving the operational efficiency and competitiveness of SMEs. The study's three models sequentially enhance one another, revealing a distinct progression of augmented explanatory capacity concerning the impact of various innovation kinds on SME success. The initial model demonstrated that Innovation Type, despite accounting for just a negligible fraction of the variance in performance, maintains a statistically meaningful correlation with SME success. This preliminary discovery underscores the imperative for SMEs to embrace various forms of innovation to enhance performance results. The capacity of small firms to innovate is essential in a more competitive market, especially in a developing economy such as Nigeria, where SMEs are crucial for economic growth and employment generation. The second model used Innovation Strategies in addition to Innovation Type, significantly enhancing explanatory power and accounting for 93.4% of the variance in performance outcomes. This emphasises that both the nature of innovation and the strategic methodology employed for its implementation are significant. The findings underscore the significance of well-articulated innovation plans in optimising the performance capabilities of SMEs. Effective innovation strategies can enhance productivity, product development, and market response, which are crucial for SMEs aiming to succeed in dynamic business contexts. The final model augmented our comprehension by incorporating Innovation Capabilities. The results demonstrated that the model accounts for 94.1% of the variance in SME performance when all three dimensions - Innovation Type, Innovation Strategies, and Innovation Capabilities - are analysed collectively. This noteworthy conclusion demonstrates that the interaction among various types of innovation markedly affects performance results. SMEs must embrace many innovation types and strategic approaches while enhancing their capacities to effectively implement and sustain these innovations. The results underscore the necessity for SMEs to foster a culture of innovation inside their organisations. This entails cultivating an atmosphere conducive to the proliferation of innovative ideas and promoting unconventional

thinking among personnel. The findings indicate that SMEs investing in the enhancement of their innovation capabilities are more adept at responding to market needs and fluctuations, therefore improving their overall performance. This study addresses a critical gap in the literature about SME performance and innovation in Nigeria, providing practical insights for practitioners and policymakers. By comprehending the significant influence of innovation strategies and capabilities on performance, SMEs may make educated decisions that improve their competitiveness and sustainability. Moreover, policymakers can utilise these findings to establish supportive frameworks that foster innovation within the SME sector, hence enhancing overall economic development in Ogun State and Nigeria at large. Consequently, cultivating a dynamic innovation ecosystem within the SME sector is crucial for stimulating economic growth and generating employment possibilities in the region.

5.3 Recommendations

This study proposes the following recommendations to improve the performance of Small and Medium-Sized Enterprises (SMEs) in Ogun State using effective innovation practices:

1. **Diversify Innovation Types:** SMEs ought to proactively investigate and implement diverse forms of innovation, encompassing product, process, and service innovations, to augment their competitiveness and market presence.
2. **Establish Structured Innovation Strategies:** Organisations must formulate and execute explicit innovation strategies that correspond with their business objectives to enhance the efficacy of their innovation initiatives on performance.
3. **Augment Innovation Capacities:** SMEs ought to allocate resources towards developing their internal innovation skills via training, resource acquisition, and knowledge-sharing efforts, hence facilitating the effective implementation and sustainability of innovative processes.
4. **Cultivate an Innovative Culture:** Organisations must establish a culture that promotes creativity and risk-taking among employees, facilitating the invention and exploration of novel ideas.
5. **Pursue Government Assistance:** Policymakers ought to offer incentives, financing, and resources to assist SMEs in their innovation initiatives, cultivating a climate favourable to sustained growth and development.

5.4 Contribution to Knowledge

This research substantially enhances the current understanding of product service innovation and the success of small and medium-sized enterprises (SMEs) in Ogun State, Nigeria. This research empirically investigates the links among innovation types, strategies, capabilities, and SME performance, thereby addressing a significant gap in the literature, especially in the Nigerian setting where few studies have explored these interdependencies. The use of the Resource-Based View and Innovation Diffusion Theory offers a comprehensive theoretical framework for comprehending the impact of many dimensions of innovation on company results. The findings emphasise the necessity of including innovation strategies and capabilities as essential elements for improving performance in SMEs, hence providing significant insights for policymakers, business leaders, and researchers. The study lays a groundwork for subsequent research, promoting further investigation into the dynamics of innovation in SMEs and the influence of contextual factors in developing countries. This research enhances the dialogue on innovation and entrepreneurship by offering empirical evidence to inform strategic decision-making and policy creation for SME advancement.

5.5 Suggested Areas of Further Research

Subsequent research may investigate several domains to expand upon the conclusions of this study about product service innovation and the success of SMEs in Ogun State. A longitudinal study could be undertaken to evaluate the evolution of the relationship between innovation practices and SME performance over time, yielding profound insights into the sustainability of innovation effects. Furthermore, comparative analyses of SMEs across various locations or industries could improve the comprehension of contextual elements affecting innovation efficacy. A further significant area for research is to examine the impact of digital transformation on the innovative capacities of SMEs, particularly in the post-COVID-19 context. Investigating the influence of external factors, like market dynamics and regulatory frameworks, on innovation strategy and performance may provide significant insights. Ultimately, qualitative research examining the experiences and challenges encountered by SME proprietors and managers in adopting innovative practices would yield a more nuanced comprehension of the obstacles to innovation and assist in identifying pragmatic solutions. The proposed areas for additional research would enhance the understanding of the intricacies related to innovation and SME performance.

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