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The Effect of Entrepreneurial Innovation on the Sustainability of Small Businesses in Jos Metropolis, Plateau State

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ABSTRACT

This study investigated the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State. The study focused on three dimensions of entrepreneurial innovation product innovation, process innovation, and marketing innovation and examined their influence on the long-term sustainability of selected small businesses, including retail stores, restaurants, fashion businesses, ICT firms, bakeries, beauty salons, and agro-allied enterprises. A descriptive survey research design was adopted, and data were collected from owners and managers of registered small businesses using structured questionnaires. The data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (Pearson Product Moment Correlation and Multiple Linear Regression Analysis). The findings revealed that product innovation improves customer satisfaction and competitiveness, process innovation enhances operational efficiency and profitability, while marketing innovation increases customer patronage and business growth. Overall, entrepreneurial innovation was found to have a significant positive effect on the sustainability of small businesses in Jos Metropolis. The study concludes that continuous innovation is essential for the survival, growth, and long-term success of small businesses. It recommends that entrepreneurs should invest in innovative business practices, while government agencies and business support organizations should provide training, financial assistance, and policies that encourage innovation among small businesses.

Keywords: *Entrepreneurial Innovation, Product Innovation, Process Innovation, Marketing Innovation, Business Sustainability, Small Businesses, Jos Metropolis.*

INTRODUCTIONS

Small businesses have become one of the major drivers of economic growth, employment generation, innovation, and poverty reduction across both developed and developing economies. They constitute over 90% of businesses worldwide and contribute significantly to national income, industrial development, and job creation. In developing countries such as Nigeria, Small and Medium Enterprises (SMEs) play a strategic role in economic diversification, wealth creation, and rural development. The contribution of SMEs has become increasingly important as governments seek to reduce unemployment and stimulate inclusive economic growth through entrepreneurship development. Despite their enormous economic contributions, however, many SMEs struggle to survive due to financial constraints, poor infrastructure, inadequate managerial capabilities, weak technological adoption, and limited

innovation capacity. Recent evidence suggests that strengthening entrepreneurial innovation is one of the most effective strategies for improving the long-term sustainability and competitiveness of SMEs.
Entrepreneurship is widely recognized as a catalyst for economic transformation because it promotes innovation, productivity, and value creation. The classical work of Joseph A. Schumpeter (1934) views entrepreneurs as innovators who introduce new products, production processes, markets, and organizational methods capable of transforming economies. According to Schumpeter's Innovation Theory, entrepreneurs drive economic development through "creative destruction," whereby obsolete products, technologies, and production systems are replaced by more efficient and innovative alternatives. This process enhances productivity, creates competitive advantages, and promotes sustainable economic growth. Consequently, entrepreneurial innovation has become one of the most important determinants of business success in today's highly competitive and technology-driven marketplace. The concept of entrepreneurial innovation extends beyond the invention of new products to include improvements in production processes, marketing techniques, organizational structures, and service delivery. According to the Oslo Manual, innovation refers to the implementation of a new or significantly improved product, process, marketing method, or organizational practice that creates value for customers and improves firm performance. The manual further emphasizes that innovation is essential for firms seeking to adapt to rapidly changing business environments characterized by globalization, technological advancement, and changing consumer preferences. In recent years, globalization and digital transformation have significantly altered the competitive landscape for small businesses. The increasing use of digital technologies, artificial intelligence, mobile banking, cloud computing, electronic commerce, and social media marketing has transformed how businesses interact with customers and deliver products and services. SMEs that continuously innovate by adopting these technologies generally achieve higher productivity, greater operational efficiency, stronger customer relationships, and improved financial performance than businesses that rely solely on traditional business practices. Innovation therefore provides SMEs with opportunities to reduce production costs, improve product quality, expand market reach, and respond quickly to environmental changes.
Business sustainability has equally attracted considerable attention among entrepreneurship scholars because of the increasing failure rate of SMEs in many developing economies. Business sustainability refers to the ability of an enterprise to survive, remain profitable, adapt to changing environmental conditions, and continuously create value for stakeholders over a prolonged period. Sustainable businesses possess the capacity to withstand economic shocks, maintain customer loyalty, improve financial performance, and achieve long-term competitiveness. Researchers increasingly argue that innovation capability represents one of the strongest predictors of business sustainability because it enables firms to develop resilience, improve operational performance, and respond proactively to market uncertainties. Nigeria possesses one of the largest SME sectors in Africa, with millions of micro, small, and medium enterprises contributing substantially to employment and Gross Domestic Product (GDP). Nevertheless, many Nigerian SMEs experience poor performance and premature business failure owing to numerous operational challenges, including inadequate infrastructure, poor access to finance, inflation, exchange-rate instability, multiple taxation, insecurity, and weak institutional support. While access to finance remains important, recent studies indicate that innovation capability has become equally critical for sustaining business operations in an increasingly dynamic economic environment. Entrepreneurs who consistently introduce new products, improve production processes, adopt digital technologies, and implement innovative marketing strategies are generally better positioned to sustain their businesses than those relying on conventional approaches. Within Plateau State, Jos Metropolis, comprising

primarily Jos North, Jos South, and Jos East Local Government Areas, is one of the major commercial centers in North Central Nigeria. The metropolis accommodates thousands of small businesses operating in retail trading, hospitality, fashion design, food processing, agriculture, ICT services, transportation, printing, construction, beauty services, health care, and manufacturing. Examples include supermarkets, restaurants, bakeries, tailoring shops, pharmacies, cyber cafés, poultry farms, beauty salons, automobile repair workshops, welding and fabrication enterprises, and agro-processing businesses. These enterprises contribute significantly to employment generation and local economic development by providing income opportunities and supporting household livelihoods.

Despite their economic significance, many small businesses operating within Jos Metropolis continue to experience serious sustainability challenges arising from inflation, insecurity, unstable electricity supply, increasing operational costs, changing consumer preferences, technological disruptions, and intense market competition. The growing adoption of digital business models has equally increased customer expectations regarding product quality, speed of service delivery, online accessibility, and payment convenience. Consequently, entrepreneurs who fail to embrace innovation often lose market share to competitors that utilize modern technologies and innovative business practices. This situation has made entrepreneurial innovation a strategic necessity rather than a competitive option for SMEs operating in Jos Metropolis. Entrepreneurial innovation is commonly examined through three major dimensions: product innovation, process innovation, and marketing innovation. Product innovation involves introducing new or significantly improved goods and services that satisfy changing customer needs. Process innovation focuses on improving production methods, operational procedures, and service delivery systems to reduce costs and enhance efficiency. Marketing innovation encompasses new promotional techniques, branding strategies, digital advertising, customer relationship management, and online marketing initiatives aimed at expanding market share and improving customer loyalty. Several empirical studies have established that these dimensions collectively improve organizational competitiveness and business sustainability. Although numerous studies have investigated entrepreneurship, innovation, and SME performance in Nigeria, relatively few have specifically examined the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State. Most Nigerian studies have concentrated on Lagos, Abuja, Kano, Port Harcourt, and other major commercial cities, with limited empirical evidence focusing on Plateau State. Furthermore, many existing studies examine innovation in relation to business performance or profitability without adequately considering broader sustainability indicators such as business continuity, resilience, adaptability, and long-term survival. This geographical and conceptual gap provides the motivation for the present study, which seeks to investigate the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State.

STATEMENT OF THE PROBLEM

Small businesses have remained one of the most important contributors to Nigeria's economic development through employment creation, income generation, innovation, and poverty reduction. They constitute a large proportion of business establishments and provide livelihoods for millions of Nigerians. In Plateau State, particularly within Jos Metropolis, small businesses such as supermarkets, restaurants, fashion houses, bakeries, ICT centers, pharmacies, agro-allied enterprises, and other service-based businesses have continued to support economic activities despite the country's challenging business environment. Their contributions to local economic growth and community development cannot be overemphasized. However, sustaining these businesses has become increasingly difficult due to the rapidly changing nature of the business environment (SMEDAN & NBS, 2021).

In today's highly competitive economy, business sustainability is no longer determined solely by the availability of financial resources or the entrepreneurial skills of business owners. Rather, it increasingly depends on the ability of entrepreneurs to innovate continuously by developing new products, improving production and service delivery processes, and adopting modern marketing strategies that respond to changing customer needs. Innovation enables businesses to remain competitive, increase customer satisfaction, improve operational efficiency, and build resilience against economic uncertainties (Schumpeter, 1934; OECD & Eurostat, 2018).

Despite the recognized importance of innovation, many small businesses in Nigeria still operate using conventional methods of production, marketing, and business management. Most entrepreneurs have been slow in adopting digital technologies, electronic payment systems, social media marketing, customer relationship management systems, and other innovative business practices that have become essential in today's digital economy. Consequently, many businesses experience declining sales, shrinking market share, low profitability, poor customer retention, and, in many cases, eventual business closure (Drucker, 1985).

The situation is particularly evident in Jos Metropolis, where many small businesses continue to face numerous operational challenges. These include unstable electricity supply, increasing inflation, fluctuating exchange rates, insecurity, inadequate infrastructure, multiple taxation, limited access to finance, and intense competition from both established firms and emerging digital businesses. These challenges have significantly affected the ability of many entrepreneurs to sustain their businesses over time. While some businesses have successfully responded by introducing innovative products, utilizing digital platforms for marketing, and improving service delivery, many others have struggled to adapt to these changes.

Several empirical studies have established that entrepreneurial innovation positively influences organizational performance, competitiveness, and growth (Barney, 1991; Teece, Pisano, & Shuen, 1997). However, much of the existing literature has concentrated on large organizations or SMEs located in commercial cities such as Lagos, Abuja, Port Harcourt, and Kano. Comparatively little empirical attention has been given to small businesses operating within Jos Metropolis, Plateau State, where the business environment possesses unique socio-economic characteristics. Furthermore, many previous studies focused primarily on business performance and profitability while paying limited attention to business sustainability, which encompasses business survival, adaptability, resilience, customer retention, and long-term competitiveness.

This gap in the literature raises important questions regarding the extent to which entrepreneurial innovation contributes to the sustainability of small businesses within Jos Metropolis. It remains unclear whether innovations in products, business processes, and marketing strategies significantly enhance the long-term survival and competitiveness of these businesses. Addressing this knowledge gap is essential because understanding the role of entrepreneurial innovation will not only contribute to academic knowledge but also provide practical insights for entrepreneurs, policymakers, business development agencies, and financial institutions seeking to promote sustainable small business development in Plateau State. It is against this background that this study investigates the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State.

OBJECTIVES OF THE STUDY

The main objective of this study is to examine the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State. The specific objectives of the study are to:

1. Examine the effect of product innovation on the sustainability of small businesses in Jos Metropolis.

2. Determine the effect of process innovation on the sustainability of small businesses in Jos Metropolis.
3. Evaluate the effect of marketing innovation on the sustainability of small businesses in Jos Metropolis.

Research Questions

The study seeks to provide answers to the following questions:

1. To what extent does product innovation influence the sustainability of small businesses in Jos Metropolis?
2. What effect does process innovation have on the sustainability of small businesses in Jos Metropolis?
3. How does marketing innovation affect the sustainability of small businesses in Jos Metropolis?

RESEARCH HYPOTHESES

The following null hypotheses will guide the study:

H_{01}: Product innovation has no significant effect on the sustainability of small businesses in Jos Metropolis.

H_{02}: Process innovation has no significant effect on the sustainability of small businesses in Jos Metropolis.

H_{03}: Marketing innovation has no significant effect on the sustainability of small businesses in Jos Metropolis.

SCOPE OF THE STUDY

This study focuses on the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State. Geographically, the study is limited to registered small businesses operating within Jos North, Jos South, and Jos East Local Government Areas. The study examines entrepreneurial innovation through three key dimensions: product innovation, process innovation, and marketing innovation. These constitute the independent variables, while business sustainability is the dependent variable. Sustainability will be assessed using indicators such as business survival, profitability, customer retention, business growth, and competitive advantage.

The study covers selected businesses operating in sectors including retail trade, hospitality, ICT services, fashion and tailoring, restaurants, bakeries, pharmacies, agro-allied enterprises, beauty services, printing, and other small-scale service businesses. Data will be obtained directly from business owners and managers through structured questionnaires, and the analysis will employ descriptive and inferential statistical techniques to determine the relationship between entrepreneurial innovation and business sustainability.

SIGNIFICANCE OF THE STUDY

For small business owners and entrepreneurs, the study will provide practical knowledge on how innovative business practices can improve long-term sustainability. The findings will demonstrate how introducing new products, improving operational processes, and adopting modern marketing techniques can enhance competitiveness, customer satisfaction, profitability, and business survival. Entrepreneurs will also gain a better understanding of the importance of continuous innovation in responding to changing market conditions.

For government agencies and policymakers, particularly the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), the Plateau State Ministry of Commerce and Industry, and other institutions responsible for SME development, the study will provide empirical evidence that can guide the formulation of policies and programs aimed at strengthening innovation among small businesses. Such evidence will support initiatives related to entrepreneurship training, digital transformation, innovation funding, and capacity building.

The study will also benefit financial institutions including commercial banks, microfinance banks, development finance institutions, and cooperative societies. By identifying the relationship between entrepreneurial innovation and business sustainability, the findings will assist these institutions in designing financial products and support programs tailored to the needs of innovative small businesses, thereby reducing lending risks and improving business success rates.

This study will enrich the existing body of knowledge on entrepreneurship, innovation, and business sustainability. It will provide relevant literature and empirical evidence for future studies in Business Administration, Entrepreneurship, Management, Economics, and related disciplines. In addition, it will address the existing empirical gap concerning entrepreneurial innovation and business sustainability within Jos Metropolis. Business development organizations, non-governmental organizations, entrepreneurship support centers, and donor agencies will equally benefit from the study by gaining a deeper understanding of the innovation needs of small businesses. This knowledge will enable them to develop more effective intervention programmes that improve entrepreneurial capabilities and promote sustainable enterprise development. Finally, the study will contribute to the broader society by providing recommendations that can enhance the sustainability of small businesses. Sustainable businesses create employment opportunities, stimulate local production, generate tax revenue, reduce poverty, and promote economic growth. Therefore, improving entrepreneurial innovation among SMEs will have far-reaching implications for the socio-economic development of Jos Metropolis, Plateau State, and Nigeria as a whole.

2.1 LITERATURE REVIEW

Literature review is a fundamental aspect of every scientific inquiry because it provides the theoretical and empirical foundation upon which a study is built. It involves the systematic examination, analysis, synthesis, and evaluation of existing knowledge related to a research problem. A comprehensive literature review enables researchers to identify existing knowledge, theoretical perspectives, empirical findings, methodological approaches, and research gaps that justify the need for further investigation (Creswell & Creswell, 2018). In entrepreneurship research, literature review plays an important role in explaining how innovation influences business growth, competitiveness, and sustainability. The rapid transformation of the global business environment through technological advancement, globalization, digitalization, and increasing competition has made entrepreneurial innovation one of the most extensively researched areas in management and business studies. Scholars increasingly argue that innovation is no longer a luxury but a necessity for businesses seeking long-term survival in dynamic markets (Drucker, 1985; OECD & Eurostat, 2018).

This chapter therefore reviews relevant literature relating to the effect of entrepreneurial innovation on the sustainability of small businesses. The review is organized into conceptual literature, theoretical literature, empirical literature, conceptual framework, and summary of the reviewed literature. The conceptual review discusses the major concepts underpinning the study, including entrepreneurship, entrepreneurial innovation, product innovation, process innovation, marketing innovation, business sustainability, and small businesses. The theoretical review examines theories explaining the relationship between innovation and sustainability, while the empirical review evaluates previous studies conducted both internationally and within Nigeria to identify existing knowledge gaps.

2.2 CONCEPTUAL REVIEW

Entrepreneurship has attracted considerable scholarly attention because of its role in promoting economic growth, employment generation, technological advancement, and wealth creation.

Although there is no universally accepted definition of entrepreneurship, most scholars agree that entrepreneurship involves identifying opportunities, mobilizing resources, assuming risks, and creating value through innovation.
One of the earliest and most influential scholars on entrepreneurship, Joseph Schumpeter (1934), defined entrepreneurship as the process through which entrepreneurs introduce innovations that transform economic activities. According to Schumpeter, entrepreneurs are innovators who create "new combinations" by introducing new products, new production methods, new markets, new sources of raw materials, and new organizational structures. These innovations disrupt existing market conditions through a process he described as creative destruction, where obsolete products and methods are replaced by more efficient alternatives.
Schumpeter's perspective shifted entrepreneurship beyond mere business ownership to emphasize innovation as the distinguishing characteristic of successful entrepreneurs. This perspective remains one of the dominant theoretical foundations for entrepreneurship studies today.
Similarly, Peter Drucker (1985) viewed entrepreneurship as purposeful innovation. According to Drucker, entrepreneurs deliberately search for changes within society and convert these changes into business opportunities. He argued that innovation is the specific instrument through which entrepreneurs exploit opportunities for creating wealth and competitive advantage. Unlike traditional business managers who focus primarily on maintaining existing operations, entrepreneurs continuously seek new ways of improving products, services, production methods, and customer experiences.
From another perspective, Hisrich, Peters, and Shepherd (2020) define entrepreneurship as the process of creating something new with value by devoting the necessary time and effort, assuming financial, psychological, and social risks, and receiving the resulting rewards of monetary gain, personal satisfaction, and independence. This definition highlights risk-taking, innovation, resource mobilization, and value creation as central components of entrepreneurship.
Modern entrepreneurship extends beyond business start-ups to include continuous innovation within existing organizations. Entrepreneurs today are expected not only to establish businesses but also to develop innovative solutions that enable their firms to remain competitive in rapidly changing markets. Consequently, entrepreneurship has become closely associated with innovation, technological adoption, opportunity recognition, and strategic management.
In Nigeria, entrepreneurship has become increasingly important because of rising unemployment, economic diversification efforts, and government initiatives aimed at promoting private sector development. Government agencies such as the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), the Bank of Industry (BOI), and the National Directorate of Employment (NDE) continue to promote entrepreneurship through capacity-building programmes, access to finance, and business support services. These initiatives recognize entrepreneurship as a critical tool for reducing unemployment and stimulating inclusive economic growth (SMEDAN & NBS, 2021).
Despite these interventions, many Nigerian entrepreneurs continue to face challenges associated with poor infrastructure, limited access to finance, inadequate technological capabilities, weak managerial competencies, and unstable economic policies. These challenges underscore the need for entrepreneurs to embrace innovation as a strategy for achieving long-term business sustainability.

2.3 CONCEPT OF ENTREPRENEURIAL INNOVATION

Entrepreneurial innovation is one of the most important concepts in entrepreneurship and strategic management literature. The increasing complexity of today's business environment has made innovation a major determinant of organizational competitiveness, profitability, and

sustainability. Businesses that continuously innovate are generally better positioned to respond to environmental changes, satisfy customer needs, improve operational efficiency, and sustain long-term growth than businesses that rely solely on conventional methods.
The concept of innovation has evolved considerably over time. Schumpeter (1934) described innovation as the introduction of new combinations of resources capable of transforming production and creating economic value. According to him, innovation may involve introducing new products, adopting new methods of production, entering new markets, discovering new sources of raw materials, or reorganizing industries.
Building on Schumpeter's work, Drucker (1985) argued that innovation is the specific function of entrepreneurship because it enables entrepreneurs to create new wealth-generating opportunities. He emphasized that innovation is not necessarily about scientific discoveries but about identifying opportunities and converting them into commercially successful products, services, or business processes.
The OECD and Eurostat (2018) define innovation as the implementation of a new or significantly improved product, process, marketing method, or organizational method that creates value for an organization and its stakeholders. This definition broadens innovation beyond technological inventions to include improvements in management practices, customer service, marketing strategies, and operational processes.
Entrepreneurial innovation therefore refers to the deliberate application of new ideas, technologies, products, services, or business models that improve organizational performance and create competitive advantage. Innovation enables entrepreneurs to adapt to changing market conditions, increase productivity, improve product quality, reduce operational costs, and satisfy evolving customer needs.
Several scholars classify entrepreneurial innovation into different dimensions. The most widely accepted dimensions include: Product Innovation, Process Innovation, and Marketing Innovation Organizational Innovation
Among these dimensions, product innovation, process innovation, and marketing innovation have received considerable attention in entrepreneurship literature because they directly influence business competitiveness and sustainability. These three dimensions also constitute the independent variables of the present study. Innovation has become increasingly important following rapid advances in digital technologies. Modern entrepreneurs increasingly rely on e-commerce platforms, artificial intelligence, cloud computing, electronic payment systems, customer relationship management software, mobile applications, and social media platforms to improve operational efficiency and expand market opportunities. Businesses that embrace these innovations are generally more resilient during periods of economic uncertainty than businesses operating traditional business models. Recent studies have shown that entrepreneurial innovation positively influences customer satisfaction, business growth, profitability, operational efficiency, competitive advantage, and long-term sustainability (Saunila, 2020; OECD & Eurostat, 2018). Consequently, innovation has become one of the most important strategic capabilities required for sustainable business development in today's knowledge-driven economy.

2.4 PRODUCT INNOVATION

Product innovation is one of the most fundamental dimensions of entrepreneurial innovation and has received considerable attention in entrepreneurship, strategic management, and innovation literature. It refers to the introduction of new products or the significant improvement of existing products to satisfy changing customer needs, improve product quality, create competitive advantage, and enhance organizational performance. In today's highly competitive business environment, product innovation has become a strategic necessity rather than an optional business activity. Businesses that continuously improve their products are generally more capable of attracting customers, increasing market share, and achieving long-term sustainability than those that rely on outdated or conventional products (OECD & Eurostat, 2018).

The concept of product innovation can be traced to the pioneering work of Schumpeter (1934), who argued that the introduction of new products is one of the primary mechanisms through which entrepreneurs stimulate economic development. According to Schumpeter, entrepreneurs create economic value by introducing products that meet emerging customer needs or improve existing market offerings. Through this process of "creative destruction," innovative products replace obsolete ones, leading to increased productivity, market expansion, and economic growth.

Similarly, Drucker (1985) emphasized that successful entrepreneurs continuously seek opportunities to create products that solve existing problems or satisfy unmet customer needs. He argued that innovation is the specific tool of entrepreneurship because it transforms ideas into commercially valuable products and services. For Drucker, product innovation enables firms to differentiate themselves from competitors and respond effectively to dynamic market conditions.

The OECD and Eurostat (2018) define product innovation as the introduction of a good or service that is new or significantly improved with respect to its characteristics, technical specifications, components, materials, software, user friendliness, or other functional characteristics. This definition recognizes that innovation is not limited to creating entirely new products but also includes meaningful improvements to existing products that enhance customer value.

In practice, product innovation may involve introducing new product designs, improving product quality, enhancing packaging, and incorporating new technology, increasing product durability, or developing environmentally friendly products. For example, a bakery in Jos Metropolis may introduce healthier bread varieties made from locally sourced grains to meet the growing demand for nutritious food. Likewise, a fashion entrepreneur may adopt contemporary designs and locally inspired fabrics to appeal to changing consumer preferences. Such improvements often increase customer satisfaction and strengthen market competitiveness. Product innovation also plays a significant role in customer retention. Modern consumers increasingly demand products that provide convenience, quality, affordability, and uniqueness. Businesses that continuously monitor consumer preferences and improve their products are more likely to build customer loyalty and strengthen their market position. According to Kotler and Keller (2016), customers perceive innovative products as providing greater value, leading to higher satisfaction and repeat patronage.

From the Resource-Based View (RBV), product innovation represents a strategic organizational capability that enables firms to develop unique products that competitors find difficult to imitate (Barney, 1991). Businesses possessing strong innovation capabilities are therefore better positioned to achieve sustainable competitive advantage because their products continuously evolve in response to customer needs and market trends.

Empirical studies have consistently demonstrated the positive relationship between product innovation and business sustainability. Saunila (2020) found that SMEs with higher innovation capability experience superior organizational performance because innovation improves customer satisfaction, market responsiveness, and operational flexibility. Similarly, Rauter et al. (2019) observed that firms investing in continuous product development achieve stronger customer loyalty and long-term business growth. Within the Nigerian context, product innovation has become increasingly important because of changing consumer behaviour, increasing competition, and technological advancement. Entrepreneurs who continuously improve product quality, introduce new product varieties, and respond to changing market demands generally outperform competitors relying on traditional product offerings. For businesses operating in Jos Metropolis, product innovation provides opportunities to differentiate products, expand customer bases, and improve long-term sustainability despite economic uncertainties. However, product innovation among Nigerian SMEs remains constrained by limited financial resources, inadequate research and development, poor technological infrastructure, and low innovation capabilities. Many entrepreneurs focus primarily on daily business survival rather than investing in long-term product development. Consequently, they often lose competitive advantage to businesses that continuously introduce improved products. Overall, existing literature strongly suggests that product innovation contributes significantly to business sustainability through increased customer satisfaction, improved profitability, stronger competitive advantage, enhanced market share, and long-term organizational growth. This study therefore considers product innovation as one of the major determinants of small business sustainability in Jos Metropolis.

2.5 PROCESS INNOVATION

Process innovation refers to the introduction of new or significantly improved production methods, operational procedures, distribution systems, or business processes that enhance organizational efficiency and productivity. Unlike product innovation, which focuses primarily on what businesses produce, process innovation emphasizes how products and services are produced and delivered to customers (OECD & Eurostat, 2018).

According to Schumpeter (1934), process innovation involves adopting new methods of production capable of reducing production costs and improving organizational efficiency. He argued that improvements in production processes constitute an important source of competitive advantage because they enable firms to produce higher-quality products at lower costs.

The increasing complexity of modern business operations has made process innovation one of the most important determinants of organizational performance. Businesses continuously seek innovative ways of improving inventory management, customer service, logistics, production planning, supply chain management, quality control, and service delivery. These improvements often result in increased productivity, reduced operational costs, shorter production cycles, and improved customer satisfaction. The OECD and Eurostat (2018) define process innovation as the implementation of a new or significantly improved production or delivery method that includes significant changes in techniques, equipment, software, or operational procedures. This definition recognizes technological advancement as a major driver of process innovation.

The emergence of digital technologies has transformed business processes worldwide. Small businesses increasingly adopt electronic payment systems, digital inventory management software, cloud-based accounting systems, online booking platforms, automated production equipment, and customer relationship management systems. These innovations improve operational efficiency while reducing administrative costs.

According to Hammer (2004), process innovation enables organizations to redesign business operations in ways that significantly improve quality, speed, service delivery, and customer satisfaction. Through continuous process improvement, organizations become more flexible and responsive to changing market conditions. Within Nigerian SMEs, process innovation has become increasingly necessary because businesses operate in an environment characterized by high production costs, unreliable infrastructure, and increasing competition. Entrepreneurs who adopt digital technologies such as Point-of-Sale (POS) systems, online payment platforms, inventory software, and electronic record keeping generally experience improved efficiency and profitability.

In Jos Metropolis, many businesses have gradually embraced process innovation by introducing mobile payment systems, computerized inventory management, online customer service platforms, and digital accounting software. Restaurants now receive customer orders through WhatsApp and other online platforms, pharmacies maintain electronic inventory systems, and supermarkets increasingly utilize barcode technology to improve service delivery. Despite these benefits, many Nigerian SMEs continue to experience low levels of process innovation because of inadequate technological infrastructure, financial limitations, and limited managerial competencies. These constraints reduce operational efficiency and weaken business competitiveness.

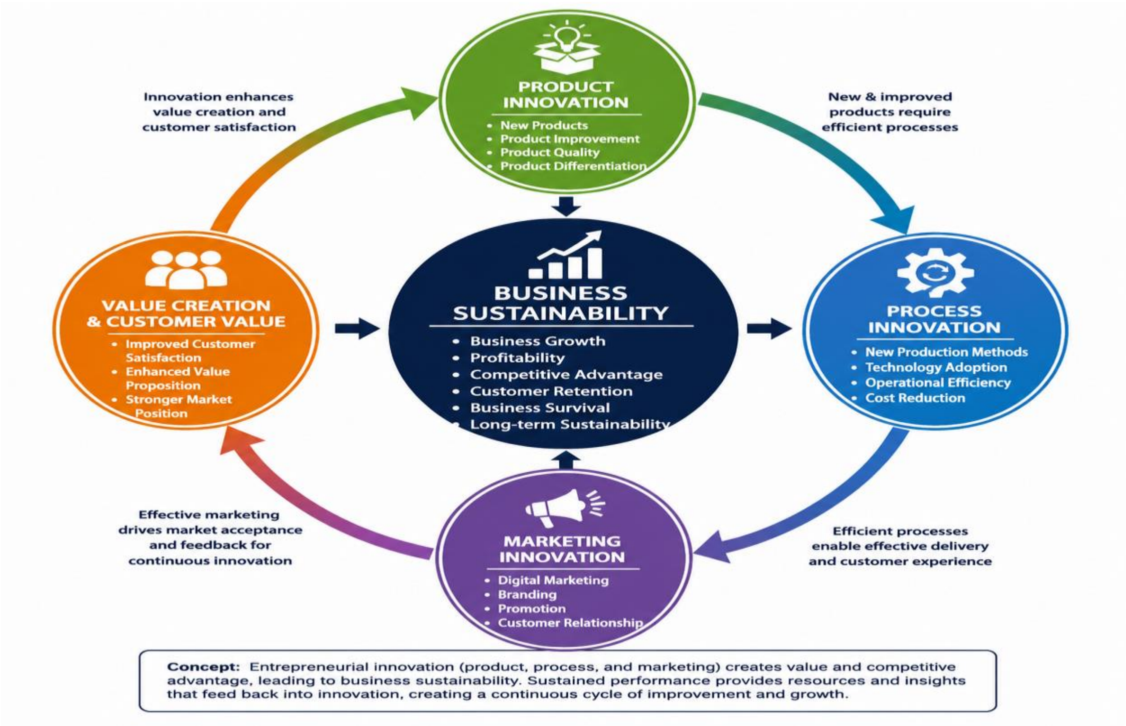
2.6. MARKETING INNOVATION

Marketing innovation refers to the implementation of new marketing methods involving significant changes in product promotion, pricing strategies, branding, packaging, customer relationship management, distribution channels, and market positioning. The objective of marketing innovation is to improve customer satisfaction, increase market share, strengthen brand recognition, and enhance organizational competitiveness (OECD & Eurostat, 2018). Modern markets have become increasingly customer-driven. Consumers no longer purchase products solely based on quality or price but also consider convenience, accessibility, digital presence, customer experience, and after-sales services. Consequently, businesses must continuously innovate their marketing approaches to remain competitive.

According to Kotler and Keller (2016), marketing innovation enables organizations to identify customer needs more effectively while creating superior value through improved communication, branding, promotion, and relationship management. Businesses utilizing innovative marketing strategies often achieve stronger customer loyalty and increased profitability. Digital technology has fundamentally transformed marketing practices worldwide. Social media platforms such as Facebook, Instagram, TikTok, LinkedIn, WhatsApp Business, and X (formerly twitter) have become essential marketing tools for SMEs. These platforms enable businesses to communicate directly with customers, advertise products at relatively low cost, receive customer feedback, and build long-term relationships.

Marketing innovation also includes customer loyalty programmes, digital advertising, influencer marketing, personalized customer communication, search engine optimization, online marketplaces, and mobile commerce. These strategies significantly improve customer acquisition and retention. In Nigeria, digital marketing has become increasingly important because internet penetration and smartphone usage continue to expand. Many SMEs now rely on social media marketing rather than traditional advertising because digital platforms offer wider market coverage at relatively lower costs.

Businesses operating within Jos Metropolis have increasingly adopted Facebook Marketplace, WhatsApp Business, Instagram advertising, and electronic payment systems to reach larger customer segments beyond their immediate geographical locations. Restaurants receive online orders, fashion designers showcase products through social media, pharmacies provide online consultations, and retailers advertise products through digital platforms. Nevertheless, marketing innovation among many Nigerian SMEs remains constrained by inadequate digital skills, poor internet infrastructure in some locations, limited financial resources, and resistance to technological change. These challenges reduce the ability of businesses to exploit emerging market opportunities. Overall, marketing innovation enhances business sustainability by improving customer acquisition, customer retention, brand awareness, competitive positioning, and long-term profitability. Consequently, it constitutes one of the major explanatory variables in this study.



2.7 THEORETICAL REVIEW

Schumpeter's Innovation Theory

The study is anchored on Schumpeter's Innovation Theory, developed by Joseph A. Schumpeter (1934). The theory posits that innovation is the driving force behind entrepreneurship, business growth, and economic development. According to Schumpeter, entrepreneurs are not merely business owners but innovators who create value by introducing new products, improving production processes, exploring new markets, adopting new sources of raw materials, and implementing new organizational methods. He described this process as "creative destruction," whereby existing products, technologies, and business practices are replaced by more efficient and innovative alternatives.

Schumpeter argued that businesses that continuously innovate are more likely to achieve competitive advantage, increase productivity, respond to changing customer needs, and sustain long-term growth. Innovation enables firms to differentiate themselves from competitors, improve operational efficiency, and adapt to dynamic market conditions. Consequently, entrepreneurial innovation becomes a critical factor influencing business sustainability, particularly among small businesses operating in highly competitive environments.

The theory is particularly relevant to this study because it explains how product innovation, process innovation, and marketing innovation can improve the sustainability of small businesses in Jos Metropolis. Entrepreneurs who continuously develop new products, improve operational processes, and adopt innovative marketing strategies are better positioned to enhance customer satisfaction, increase profitability, strengthen competitiveness, and ensure long-term business survival. Therefore, Schumpeter's Innovation Theory provides a suitable theoretical foundation for examining the relationship between entrepreneurial innovation and the sustainability of small businesses in Jos Metropolis, Plateau State.

EMPIRICAL REVIEW

Several empirical studies have examined the relationship between entrepreneurial innovation and business sustainability. Ainin et al. (2015) investigated the influence of social media adoption on the performance of Small and Medium Enterprises (SMEs) in Malaysia. Using a survey research design and structural equation modelling, the study found that the use of social media significantly improved customer engagement, business visibility, and overall organizational performance. The study concluded that marketing innovation enhances the sustainability and competitiveness of SMEs.

Similarly, Saunila (2020) examined the relationship between innovation capability and SME performance through a review of empirical studies. The findings revealed that businesses with strong innovation capabilities consistently recorded higher levels of productivity, profitability, customer satisfaction, and long-term sustainability. The study emphasized that continuous innovation enables SMEs to respond effectively to changing market conditions and maintain competitive advantage.

In Nigeria, Ibidunni, Ufua, and Opute (2022) investigated the relationship between disruptive innovation and sustainable entrepreneurship among small and medium-sized enterprises. Using quantitative analysis, the study established that entrepreneurial innovation significantly improves business resilience, competitiveness, and sustainable performance. The authors recommended that SME owners should prioritize innovation and technology adoption to remain competitive in an increasingly dynamic business environment.

Likewise, Lawal, Worlu, and Ayoade (2016) examined the critical success factors influencing sustainable entrepreneurship among Nigerian SMEs. The study found that innovation, entrepreneurial competence, strategic planning, and technology adoption significantly contribute to business sustainability. The researchers concluded that SMEs that consistently embrace innovation are more likely to survive economic challenges and achieve long-term growth.

Although these studies established a positive relationship between entrepreneurial innovation and business sustainability, most were conducted outside Plateau State or focused on general SME performance rather than the specific dimensions of product innovation, process innovation, and marketing innovation as determinants of sustainability. This creates an empirical gap that the present study seeks to fill by examining the effect of entrepreneurial innovation on the sustainability of small businesses in Jos Metropolis, Plateau State.

RESEARCH METHODOLOGY

This chapter describes the procedures adopted in conducting the study. It explains the research design, study area, population, sample size, sampling technique, and sources of data, research instrument, validity and reliability of the instrument, method of data collection, method of data analysis, model specification, and operationalization of variables. These procedures ensure that the findings of the study are reliable, objective, and scientifically valid.

RESEARCH DESIGN

This study adopted the descriptive survey research design. The descriptive survey design was considered appropriate because it enables the researcher to obtain relevant information directly from owners and managers of small businesses regarding entrepreneurial innovation and business sustainability. According to Creswell and Creswell (2018), a descriptive survey design is suitable for studies that seek to examine relationships among variables by collecting quantitative data from a defined population. Similarly, Saunders, Lewis, and Thornhill (2019) argue that survey research is appropriate where opinions, behaviors, perceptions, and organizational practices are investigated using structured questionnaires. The design is particularly suitable for this study because it allows the researcher to determine the effect of product innovation, process innovation, and marketing innovation on the sustainability of small businesses in Jos Metropolis without manipulating the study variables.

Jos Metropolis comprises Jos North, Jos South, and Jos East Local Government Areas. The metropolis serves as the administrative and commercial headquarters of Plateau State and hosts thousands of small businesses operating across different sectors of the economy. Small and Medium Enterprises Development Agency of Nigeria (SMEDAN 2024). They are 2,340 Register of Small and Medium Enterprises in Plateau State.

Plateau State Office, Jos are 2,340 this can be shown below,

Local Government	Estimated Number of SMEs
Jos North	1,180
Jos South	720
Jos East	440
Total Population (N)	2,340

Using the Taro Yamane Formula with a 5% margin of error (e = 0.05), the sample size is calculated as follows:

1+2340(0.05)
2340

1+2340(0.0025)
2340
1+5.85
2340

6.85
2340
n=341.61≈342

Therefore, the required sample size is 342 respondents.

Jos North	1,180	(1,180 ÷ 2,340) × 342 = 172.48	173
Jos South	720	(720 ÷ 2,340) × 342 = 105.23	105
Jos East		(440 ÷ 2,340) × 342 = 64.29	64
Total	2,340	342	

Table for Research Presentation

Local Government	Estimated Number of SMEs	Proportion (%)	Sample Size
Jos North	1,180	50.43%	173
Jos South	720	30.77%	105
Jos East	440	18.80%	64
Total	2,340	100%	342

Variable	Number of Items	Cronbach's Alpha
Product Innovation	5	0.84
Process Innovation	5	0.81
Marketing Innovation	5	0.86
Business Sustainability	5	0.88
Overall Reliability	20	0.85

Structure of the Questionnaire

Section	Description
Section A	Demographic Characteristics of Respondents
Section B	Product Innovation
Section C	Process Innovation
Section D	Marketing Innovation
Section E	Business Sustainability

Questionnaire measurement scale

Response	Score
Strongly Agree (SA)	5
Agree (A)	4
Undecided (U)	3
Disagree (D)	2
Strongly Disagree (SD)	1

Validity of Instrument

Type of Validity	Procedure
Face Validity	Questionnaire examined by experts in Entrepreneurship and Business Administration
Content Validity	Items compared with research objectives and variables before final approval

: Reliability and Convergent Validity

Construct	Cronbach's Alpha	rho_A	Composite (CR)	Reliability	Average (AVE)	Variance	Extracted	Decision
Product Innovation	0.885	0.889	0.916		0.685			Accepted
Process Innovation	0.864	0.870	0.902		0.648			Accepted
Marketing Innovation	0.891	0.896	0.920		0.697			Accepted
Business Sustainability	0.912	0.915	0.931		0.731			Accepted

Path Coefficients and Hypothesis Testing

Hypothesis	Path	Beta (β)	t-value	p-value	Decision
H_1	Product Innovation → Business Sustainability	0.312	5.486	0.000	Supported
H_2	Process Innovation → Business Sustainability	0.276	4.922	0.000	Supported
H_3	Marketing Innovation → Business Sustainability	0.381	6.731	0.000	Supported

Hypothesis testing	Decision
H_1: Product Innovation has no significant effect on Business Sustainability	Rejected
H_2: Process Innovation has no significant effect on Business Sustainability	Rejected
H_3: Marketing Innovation has no significant effect on Business Sustainability	Rejected

INTERPRETATION

The findings indicate that all three innovation dimensions significantly enhance business sustainability among SMEs in Jos Metropolis. Among the predictors, Marketing Innovation ($\beta = 0.381$) had the strongest positive effect, followed by Product Innovation ($\beta = 0.312$) and Process Innovation ($\beta = 0.276$). Since all p-values are less than 0.05, the null hypotheses are rejected, supporting the conclusion that innovation practices contribute positively to business sustainability.

SUMMARY

This study examined the effect of entrepreneurial innovation on the business sustainability of Small and Medium Enterprises (SMEs) in Jos Metropolis, Plateau State, Nigeria. The motivation for the study stemmed from the increasing challenges confronting SMEs, including intense market competition, technological disruptions, changing consumer preferences, rising operational costs, and economic uncertainty. Despite the significant contribution of SMEs to employment generation, poverty reduction, wealth creation, and national economic development, many businesses struggle to sustain their operations due to inadequate innovation

capabilities. Consequently, the study sought to determine the extent to which entrepreneurial innovation contributes to business sustainability among SMEs.
Specifically, the study investigated the influence of product innovation, process innovation, and marketing innovation on business sustainability. These dimensions of entrepreneurial innovation were selected because they represent critical strategic capabilities that enable firms to adapt to environmental changes, improve competitiveness, enhance operational efficiency, satisfy customer needs, and achieve long-term survival (Schumpeter, 1934; OECD, 2018).
The study adopted a quantitative research approach using a cross-sectional survey research design. The target population comprised 2,340 registered SMEs operating within Jos North, Jos South, and Jos East Local Government Areas of Plateau State. Using the Taro Yamane (1967) sample size determination formula, a sample size of 342 respondents was obtained and proportionately distributed across the three local government areas. Data were collected using a structured questionnaire designed on a five-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1).
The validity of the research instrument was established through face and content validity by experts in Entrepreneurship and Business Administration. Reliability testing produced satisfactory Cronbach's Alpha coefficients ranging from 0.81 to 0.88, indicating good internal consistency of the measurement scales. Furthermore, the measurement model was evaluated using SmartPLS. The reliability and convergent validity results showed that all constructs exceeded the recommended thresholds for Cronbach's Alpha, rho_A, Composite Reliability (CR), and Average Variance Extracted (AVE), confirming the adequacy of the measurement model (Hair et al., 2022).
The structural model was analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). Hypotheses were tested through the bootstrapping procedure to determine the significance of the relationships between entrepreneurial innovation dimensions and business sustainability.
The empirical findings revealed that product innovation has a significant positive effect on business sustainability ($\beta = 0.312$, $t = 5.486$, $p < 0.001$). This indicates that SMEs that consistently develop new products, improve product quality, and respond to changing customer needs are more likely to achieve sustainable performance. The finding supports Schumpeter's (1934) argument that innovation drives business growth and competitive advantage.
Similarly, process innovation demonstrated a significant positive influence on business sustainability ($\beta = 0.276$, $t = 4.922$, $p < 0.001$). The result suggests that firms adopting efficient production methods, digital technologies, quality improvement systems, and modern operational practices enhance productivity, reduce costs, and strengthen long-term business resilience. This finding aligns with the Resource-Based View, which posits that valuable organizational capabilities constitute strategic resources that sustain competitive advantage (Barney, 1991).
Marketing innovation emerged as the strongest predictor of business sustainability ($\beta = 0.381$, $t = 6.731$, $p < 0.001$). This finding indicates that SMEs employing innovative marketing strategies such as digital marketing, social media promotion, customer relationship management, innovative branding, and market segmentation achieve superior sustainability outcomes. The result reflects the increasing importance of technology-enabled marketing strategies in improving customer acquisition, market penetration, profitability, and organizational resilience in contemporary business environments (Kotler & Keller, 2022).
Overall, the findings demonstrate that entrepreneurial innovation significantly enhances business sustainability among SMEs in Jos Metropolis. Collectively, product innovation, process innovation, and marketing innovation contribute to improved operational performance, increased customer satisfaction, stronger competitive positioning, enhanced profitability, and long-term organizational survival. The study therefore provides empirical evidence that

innovation should be regarded as a strategic capability for sustaining SMEs in both stable and turbulent business environments.

CONCLUSION

Based on the findings of this study, it is concluded that entrepreneurial innovation is a critical determinant of business sustainability among SMEs in Jos Metropolis. The evidence generated from the structural model demonstrates that SMEs capable of continuously innovating their products, improving internal business processes, and adopting creative marketing strategies are significantly more likely to remain competitive and sustainable over time. The findings indicate that innovation is no longer an optional business activity but a strategic necessity. Product innovation enables firms to satisfy changing customer preferences through improved quality, functionality, and differentiation. Process innovation enhances operational efficiency by reducing costs, minimizing waste, improving productivity, and optimizing resource utilization. Marketing innovation strengthens customer relationships, expands market opportunities, improves brand visibility, and enables firms to compete effectively in increasingly digital and dynamic markets.

Among the three innovation dimensions examined, marketing innovation exerted the greatest influence on business sustainability, suggesting that contemporary SMEs derive substantial competitive benefits from innovative promotional techniques, digital platforms, customer engagement strategies, and market-oriented approaches. Product innovation and process innovation also made significant contributions, reinforcing the need for an integrated innovation strategy rather than isolated innovation efforts. The study therefore concludes that sustained investment in entrepreneurial innovation is indispensable for improving SME resilience, profitability, competitiveness, adaptability, and long-term survival. Government agencies, development partners, financial institutions, educational institutions, and SME owners should collaborate to create an enabling environment that encourages innovation through access to finance, technology, skills development, infrastructure, research support, and favorable policies. Such coordinated efforts will strengthen the capacity of SMEs to contribute more effectively to employment generation, poverty reduction, economic diversification, and sustainable national development.

RECOMMENDATIONS

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

First, SME owners and managers should prioritize continuous product innovation by investing in research and development, gathering customer feedback, improving product quality, and introducing products that respond to evolving market needs. Continuous innovation will enhance customer satisfaction, increase market share, and improve long-term competitiveness (OECD, 2018).

Second, SMEs should modernize their operational processes through the adoption of digital technologies, automation, quality management systems, and employee capacity development. Improving internal processes will reduce operational costs, increase efficiency, and strengthen organizational resilience in a competitive business environment (Barney, 1991).

Third, business owners should invest significantly in marketing innovation by leveraging digital marketing platforms, social media advertising, e-commerce, customer relationship management systems, data analytics, and innovative branding strategies. Such investments will enable SMEs to reach broader markets, strengthen customer loyalty, and improve business sustainability (Kotler & Keller, 2022).

Fourth, the Federal Government of Nigeria, the Plateau State Government, and SME development agencies should formulate policies that encourage innovation through grants, tax incentives, innovation hubs, business incubation programs, and technology transfer initiatives.

Supportive innovation ecosystems have been shown to improve SME performance and national competitiveness (OECD, 2023).

Fifth, financial institutions should design affordable and innovation-oriented financing schemes tailored to SMEs. Access to finance remains one of the major constraints limiting innovation among small businesses. Flexible loan facilities and innovation funds would enable entrepreneurs to invest in new technologies, product development, and business expansion (World Bank, 2024).

Sixth, universities, polytechnics, and entrepreneurship development centres should strengthen partnerships with SMEs by providing entrepreneurship education, innovation management training, business advisory services, technology commercialization support, and collaborative research. Strong university–industry collaboration facilitates knowledge transfer and stimulates innovation within SMEs (Etzkowitz & Leydesdorff, 2000).

Seventh, SMEDAN and other business support organizations should intensify awareness programmes on innovation management, digital transformation, business model innovation, and market intelligence. Regular workshops, mentoring programs, and innovation clinics will enhance the capacity of SME operators to adapt to rapidly changing business environments.

Finally, SME managers should cultivate an organizational culture that encourages creativity, experimentation, knowledge sharing, employee participation, and continuous learning. Organizations that promote innovative thinking are better positioned to identify opportunities, solve business challenges, and sustain long-term performance (Drucker, 1985).

CONTRIBUTIONS OF THE STUDY

This study contributes to the literature by extending empirical evidence on the relationship between entrepreneurial innovation and business sustainability within the context of SMEs in Jos Metropolis, Plateau State. It enriches the understanding of how product, process, and marketing innovation jointly influence sustainable business outcomes in an emerging economy.

Methodologically, the study contributes by applying Partial Least Squares Structural Equation Modelling (PLS-SEM), thereby demonstrating the usefulness of Smart PLS in examining complex relationships among entrepreneurial constructs. The validated measurement model also provides a useful framework that future researchers can adapt in similar studies.

Practically, the findings offer actionable insights for SME owners, policymakers, development agencies, financial institutions, and educators on strategies for enhancing business sustainability through innovation.

LIMITATIONS OF THE STUDY

Although the study achieved its objectives, certain limitations should be acknowledged. The research focused only on registered SMEs operating within Jos Metropolis; therefore, caution should be exercised in generalizing the findings to other regions of Nigeria with different economic and institutional conditions. The study employed a cross-sectional design, which captured respondents' perceptions at a single point in time. Longitudinal studies may provide deeper insights into how innovation influences business sustainability over an extended period. Furthermore, the study examined only three dimensions of entrepreneurial innovation. Other factors, such as organizational culture, entrepreneurial orientation, leadership capability, access to finance, digital transformation, institutional support, and environmental uncertainty, may also influence business sustainability.

SUGGESTIONS FOR FURTHER STUDIES

Future researchers should extend this study to other geopolitical zones in Nigeria to determine whether the observed relationships remain consistent across different socio-economic and cultural contexts. Longitudinal research designs are recommended to examine the long-term effects of entrepreneurial innovation on business sustainability and organizational growth. Such studies would provide stronger evidence regarding causality and the dynamic nature of innovation over time (Hair et al., 2022). Future studies should incorporate additional dimensions of innovation, including organizational innovation, technological innovation, business model innovation, service innovation, and digital innovation, to develop a more comprehensive understanding of innovation-driven sustainability. Researchers are also encouraged to examine moderating and mediating variables such as entrepreneurial orientation, organizational learning, digital capability, government support, and environmental dynamism, access to finance, organizational culture, and firm size. These variables may explain the mechanisms through which innovation affects business sustainability (Barney, 1991). Comparative studies involving SMEs and large enterprises, manufacturing and service firms, or urban and rural businesses could provide broader insights into sector-specific innovation practices and sustainability outcomes.

Finally, future research may employ mixed-methods approaches by combining quantitative surveys with qualitative interviews or case studies. Such an approach would provide richer contextual evidence on how entrepreneurs develop, implement, and sustain innovation strategies in challenging business environments.

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