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# EFFECTS OF ENTREPRENEURIAL INNOVATION DIMENSIONS ON FIRM PRODUCTIVITY: EVIDENCE FROM SELECTED SMES IN LAGOS STATE, NIGERIA

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## Abstract

Adoption of entrepreneurial innovation is strategic to the survival of any Small and Medium-sized Enterprises (SMEs). This study examined the effects of entrepreneurial innovation dimensions on the SMEs' productivity in Lagos State. The study adopted cross-sectional survey research design. The population comprised 42,067 owners/managers of SMEs in Lagos State. A sample size of 495 was determined using Cochran's formula. Simple random sampling technique was employed to select the respondents. A structured and validated questionnaire was used for data collection. The reliability's test yielded Cronbach's alpha for the constructs ranging from 0.716 to 0.879. The response rate was approximately 83%. The hypothesis was tested using multiple linear regression statistics at 5% level of significance. The findings revealed that entrepreneurial innovation had significant effects on SMEs' productivity ($Adj.R^2$= 0.58, $F_{(4,398)}$ = 140.88, $p$<0.05). The study provided evidence for positive and statistically significant relationships between product, process and marketing innovations as predictors and SMEs productivity as the outcome. However, similar evidence could not be found when organisational innovation was factored in as a predictor of SMEs productivity in Lagos State. Recommendations were thus given towards utilising entrepreneurial innovation as an important tool in promoting the growth and development of SMEs in Lagos State in order to improve productivity and boost profitability in an ever-changing business environment.

*Keywords:* management innovation, marketing innovation, process innovation, product innovation, productivity.

## 1. Introduction

Considering the ever changing and chaotic business environment in the world in recent times, the adoption of entrepreneurial innovation has become an indispensable strategic tool for Small and Medium Enterprises (SMEs), if they are to achieve sustained productivity. Owing to severe global and local competition, business firms are compelled to determine, create and sustain a business process that gives them competitive edge by engaging in innovation. In a fast-changing environment with

incessant unexpected changes, like what the World experienced during Covid-19, it has become indispensable for firms to build up their competence to innovate.

SMEs are the most dynamic enterprises in the globalized trade and they make significant contributions, and have been playing a vital role in fostering economic growth in not only developed but also developing economies (Gamage et al., 2020; Wellalage & Locke, 2020). SMEs operate in diverse range of sectors including; manufacturing, agriculture, oil and gas, trade, and services to mention but few. Notwithstanding their relatively small size and limited resources compared to large organisations, they demonstrate remarkable flexibility and adaptability in response to market intricacies as well as play essential role in the maintenance of a stable and viable economy globally, such as continuous employment creation. Besides, SMEs play a significant role in the production process by providing auxiliary services for large organisations to aid smooth operations (Alaka et al., 2023; Odusote & Akpa, 2022; Oyelade, et al., 2022).

Governments and their agencies at various times had made efforts in supporting SMEs so that they can compete favourably amongst themselves and perform at par, if not better than, their counterparts in other countries (Adeshina, 2025; Waziri et al., 2023). Nonetheless, in developing countries such as Nigeria, SMEs are seen to be struggling with poor productivity. It is observed that the productivity of Nigerian SMEs has been in a huge decline and has been attributed to factors such as poor strategy implementation, lack of resource management, poor communication, leadership issues, to mention but a few (Odusote & Akpa, 2022). This, therefore, opens the discussion on how entrepreneurial innovation dimension affect the productivity of SMEs in Lagos State, Nigeria.

Despite SMEs' contributions to several countries' economies, their performance is considered low and this can be attributed to the low level of innovation among SMEs leaders (Nnorom et al., 2023). As a result, SMEs need to adopt more appropriate innovative strategies that can help to enhance their performance. SMEs are faced with under-performance issues in several parts of the world, including Nigeria.

Low labour productivity is a major issue for SMEs in different countries; the pace at which products are produced over time is low. This is reflected in the drop in profitability, productivity and the inability of these SMEs to innovate (Owalla et al., 2021). The economy in developed and developing countries has slowed over the years and SMEs have been particularly badly hit which resulted in a decline in profitability and a loss in competitive advantage (Yahaya et al., 2021).

Also, SMEs are faced with stagnation in the home market which has contributed to a drop in profitability and market share (Waziri et al., 2023). Similarly, owing to the size of their workforce, SMEs suffer from a lack of organisational and personnel development capabilities. Therefore, there has been a lack of creativity within most SMEs (Adamu et al., 2014; Yahaya et al., 2016). Other consequences include outdated product quality and low quantity of production which has resulted in lower productivity, decline in profitability and a loss of market share (Abubakar & Hussaina, 2020).

The prevailing challenge within the context of SMEs revolves around their ability to effectively embrace entrepreneurial innovation across various domains including; product development, process improvement, marketing strategies, and management practices (Al-Koliby et al., 2024). A significant obstacle in this regard is the limited availability of resources and expertise that SMEs often encounter, which hampers their capacity to initiate and sustain innovative initiatives (Sari et al., 2023).

This challenge vividly highlights that a substantial portion of SMEs are lagging in adopting innovative practices. For instance, recent surveys have revealed that only 35% of SMEs have successfully introduced significant product innovations, and a mere 20% have implemented substantial process innovations (Sukaatmadja et al., 2021). These statistics and other key performance indicators underscore the prevalent gap in the adoption of innovation among SMEs.

Several studies exist on the connection between entrepreneurial innovation and productivity (Adah et al., 2018; Adegboye & Iweriebor, 2018; Ekeh, 2023; Nguyen et al., 2021; Nwankwo & Ezeibe, 2021; Waziri et al., 2023) with inconclusive results. Nonetheless, not much has been done to establish the relationship between entrepreneurial innovation and productivity as it concerns SMEs in Lagos State, Nigeria which creates a gap in literature.

It has been observed that one of the major challenges facing SMEs in Nigeria is lack of access to finance which has made it difficult for them to embrace innovative activities so as to acquire new equipment and technology to boost their productivity. This coupled with unreliable power supply and entrepreneurship/vocational training and skills which have made it difficult for employees to produce to full capacity (Sanni, 2018). All these will halt productivity, causing damages to machineries, which in turn will result in low productivity as employees are unable to produce optimally (Ajibola et al., 2022). Consequently, this may be attributed to lack of innovative practices.

Because of the mixed results of the findings, scholars such as Alaka et al. (2023), Oduro (2019) and Sok et al. (2013) reiterated the need for further studies that can effectively explain if the adoption of innovation dimensions actually increases productivity. Additionally, majority of these studies were carried out in developed countries and therefore, necessitate the need to replicate the study in developing countries such as Nigeria.

The present study seeks answers to the question of how entrepreneurial innovation dimensions affect SMEs' overall productivity to fill this gap. The specific goal of this study is to provide the research community with a conceptual framework that links entrepreneurial innovation dimensions and SMEs' productivity in Lagos State, Nigeria as well as contribute to the body of knowledge and facilitate link among developed and developing countries.

The rest of the article is structured as follows: First, the review of related literature. Second, research methodology, which comprises research methods, description of the population, sampling plan, data collection, measures, and data analysis procedures are discussed. Third, results are presented and subsequently followed by the discussion of findings. Fourth, the conclusion, recommendations, limitations, and suggestions for future studies are provided.

## 2. Literature Review

SMEs productivity refers to the overall effectiveness, efficiency, and success of SMEs in achieving their business objectives. Moreover, objective or subjective indicators or a mixture of both are usually utilised in assessing the achievement of a business (Meydita et al., 2021). Objective indicators are based on financial information in addition to revenue, profit, growth, and market share; subjective indicators include managers' perceptions, customers' satisfaction, and employees' productivity estimations.

This study implicitly focuses on SMEs' innovations and adaptability to changing market conditions, as well as the qualities that are critical to their survival and

success. As such, the study uses SMEs mangers'/owners' perceptions of their respective businesses' effectiveness, efficiency and success as yardsticks for assessing SMEs productivity. This approach is consistent with the method developed by Chen and Wu (2020) and Meydita et al. (2021).

SMEs' innovation denotes the introduction of a new or substantially improved product, new production process, a novel marketing method, or a creative organisational approach to business practices (Rena, 2023; Roshi & Sidek, 2013). Innovation is closely linked to the notion of renewal, significant improvements and reconfigurations in physical, relational, or virtual aspects; it involves interactions at both individual and organisational levels, encompassing the acquisition, sharing, or imitation of knowledge; all of which contribute to problem-solving, leading to value addition and the fulfilment of potential or actual consumer needs (Kijkasiwat & Phuensane, 2020).

Entrepreneurial innovation plays a strategic role in achieving superior performance (Adegboye & Iweriebor, 2018; Afriyie et al., 2019; Nguyen et al., 2021; Waziri et al., 2023). This study examined entrepreneurial innovation at the organisational level. An organisation's process involves considering several internal and external elements (Adeleke et al., 2010). Organisations can use a proactive approach, innovation, and enterprise risk-taking. Therefore, entrepreneurial innovation belongs to the management framework that established that organisations must develop an entrepreneurial innovation to perform better.

Entrepreneurial innovations can be in various forms, such as product innovation, where new or improved goods or services are brought to the market (Ekwueme et al., 2023; Ogbonna, 2013); process innovation which focuses on optimising internal operations and workflows and involves major modifications in methods, equipment, tool and machine, purchase of new machineries and equipment to boost the production (Exposito & Sanchis-Llopis, 2019; Kahn, 2018; Roshi & Sidek, 2013); marketing innovation, targeting novel strategies to reach and engage customers effectively, changes in product design or packaging product placement, product promotion or pricing (Adamu et al., 2020; Gharghina et al., 2020); and organisational innovation or administrative innovation, encompasses changes in management practices and structures to enhance adaptability and performance (Kesavan, 2021; Zhang et al., 2019). Effective innovation is vital for SMEs competitiveness and driving growth, making it a crucial area of interest for scholars, policymakers, and SMEs owners.

**Product Innovation and SMEs Productivity**

Product innovation involves the generation and implementation of fresh ideas, technologies, and design elements to meet the evolving needs and preferences of customers (Adegboye & Iweriebor, 2018; Ogbonna, 2013). Several studies have explored the link between product innovation and SME performance, providing evidence for the positive impact of product innovation on business outcomes (Afriyie et al., 2019). Through the introduction of innovative products, SMEs can differentiate themselves from competitors, attract new customers, and retain existing ones (Du & Musah, 2019).

Additionally, product innovation allows SMEs to adapt to dynamic market trends and customer demands, resulting in improved sales, profitability, and business growth (Farida & Nuryakin, 2021). Likewise, Xie et al. (2019) established that product innovation positively influenced financial performance. Again, Li and Atuahene-Gima (2001) confirmed that product innovation strategies were positively associated with

firm performance. These studies highlighted the importance of product innovation in driving business success and suggested a positive relationship between product innovation and productivity.

Conversely, arguments are challenging the influence of product innovation on SME productivity. Research has demonstrated that the hazards and costs associated with product innovation (proxy by R&D), beside factors beyond SMEs' control, may outweigh its probable gains (Chatterjee & Bhattacharjee, 2021). Other extant studies advocate that SMEs should spotlight other aspects, such as operational efficiency and customer service, to achieve workable growth and profitability (Auramo et al., 2007; Smith, 2022). Through the development of innovative products, SMEs can meet the specific needs of the local market, enhance their competitiveness, and achieve better performance.

Process innovation involves reimagining and redesigning internal organisational processes through adopting advanced technologies, reengineering workflows, and implementing best practices (Schallmo et al., 2018). Studies have disclosed that SMEs can use process innovation to overcome the challenges associated with operational inefficiencies, inadequate infrastructure, and limited resources by achieving cost savings through economies of scale, reduced waste, and improved resource allocation, ultimately enhancing their productivity and sustainability (Tariq et al., 2019).

Moreover, it can help SMEs enhance resource utilization, reduce waste, and streamline their operations to achieve higher levels of effectiveness and efficiency in their production processes (Widya-Hasuti et al., 2018). In addition, process innovation empowers SMEs to adjust to changing market conditions, respond to competitive pressures, as well as seize new business opportunities (Najafi-Tavani et al., 2018), thereby positively impacting productivity and business performance. For instance, Chicken Republic's expansion across Nigeria has been possible because it developed replicable processes (process innovation) for site selection, store setup, supply chain management and staff training (Dada, 2026).

The positive impact process innovation is expected to have on SME productivity may be questioned by several peculiarities of SMEs in Lagos State. First, the implementation of process innovation can be resource-intensive, posing challenges for SMEs in Lagos State with limited resources and inadequate infrastructure (Tariq et al., 2019). Second, the adoption of advanced technologies and process redesign may encounter resistance from employees, impacting productivity and organisational dynamics, particularly in SMEs with limited access to skilled labour (Tariq et al., 2019).

Additionally, the effectiveness of process innovation depends on contextual factors such as industry characteristics and market conditions (Vittori et al., 2022), which may limit its applicability and impact on SMEs in Lagos State. Moreover, for process innovation to positively influence SME performance, it requires complementary factors like customer-focused strategies, effective leadership and supportive organisational culture (Kong & Muthuveloo, 2022), as well as competencies, which some scholars have confirmed to be in short supply at local SMEs.

Extant literature has proven that SMEs that invest in marketing innovation experience increased customer loyalty, higher customer acquisition rates and improved brand reputation (Adamu et al., 2020). Besides, marketing innovation allows SMEs to differentiate themselves from competitors, effectively communicate their brand message and create a strong market presence (Quaye & Mensah, 2019). Through innovative marketing techniques, such as interactive customer experiences, personalized advertising, and social media marketing, SMEs in Lagos Sate can engage

with their target audience more effectively, build strong customer relationships, and ultimately propel sales growth and profitability (Jeong & Chung, 2023; Nguyen et al., 2021).

The empirical literature also supports the opposite argument denying or at best questioning the positive impact of marketing innovation on SME performance. For instance, a meta-analysis claimed that marketing innovation alone may not directly affect performance, but when combined with a strong market orientation, it can lead to improved outcomes (Yadete et al., 2023). However, Sedibe (2020) and van Burg et al. (2012) emphasized that resource constraints faced by SMEs, such as limited funds and inadequate infrastructure, can hinder their ability to invest in and implement marketing innovation effectively.

In addition, the impact of marketing innovation on SME performance varies across industries, with a stronger effect observed in high-technology sectors compared to traditional ones (Xu et al., 2020). In a cosmopolitan city such as Lagos, this association could be unlikely; considering that SMEs in the state have limited access to funding and are faced with high costs of energy and internet services among other challenges, they may likely struggle to effectively utilize marketing innovation strategies to drive performance.

Management innovation involves creating and adopting novel approaches to problem solving, decision-making, resource allocation, and value creation (Kesavan, 2021). Empirical studies consistently demonstrate the significant impact of management innovation on SME performance. Adopting innovative organisational/management practices, such as flexible structures, employee empowerment, knowledge sharing, and a culture of continuous improvement, enhances SME efficiency, productivity, and profitability (Waheed et al., 2019).

Effective knowledge management through practices like knowledge-sharing platforms and learning networks further contributes to improved decision-making, innovation capabilities, and overall SME performance (Ali et al., 2019). Additionally, fostering a learning-oriented culture and investing in employee training facilitate organisational learning, leading to higher levels of management innovation and subsequent performance improvements (Azeem et al., 2021). Overall, embracing management innovation enables SMEs to adapt, seize opportunities, and achieve sustainable growth and success.

While some empirical studies have shown a positive impact of management innovation on SME performance (Adegboye & Iweriebor, 2018; Afriyie et al., 2019; Rajesh & Kunal, 2016), the peculiar characteristics of SMEs go against this viewpoint (Waziri et al., 2023). For instance, operating on limited budgets and fewer resources compared to larger corporations, SMEs may find that investing in flexible structures, knowledge-sharing platforms, and employee training strains their financial resources and diverts their attention from core business activities (Batra et al., 2015).

Several studies in various countries and fields have systematically examined the effect of entrepreneurial innovation dimensions (product, process, marketing and management innovations) on productivity (Lee et al., 2017; Nguyen et al., 2021; Polder et al., 2010; Woltier et al., 2021) with results pointing to positive relationship.

Conversely, the studies of Adah et al. (2018), Ayodele et al. (2019), Damanpour and Aravind (2012) found that innovation dimensions had no significant influence on firm's productivity. Because of the mixed results of the findings, scholars such as Oduro (2019) and Ntiamoah et al. (2019) reiterated the need for further studies that can effectively explain if the adoption of innovation dimensions actually increases

productivity. Additionally, majority of these studies were carried out in developed economies. Therefore, this necessitates the need to replicate the study in emerging economies such as Nigeria. Based on these diverse findings, this study hypothesized that:

**$H_{01}$:** Entrepreneurial innovation dimensions have no significant effects on the productivity of selected SMEs in Lagos State.

**Research Conceptual Model**

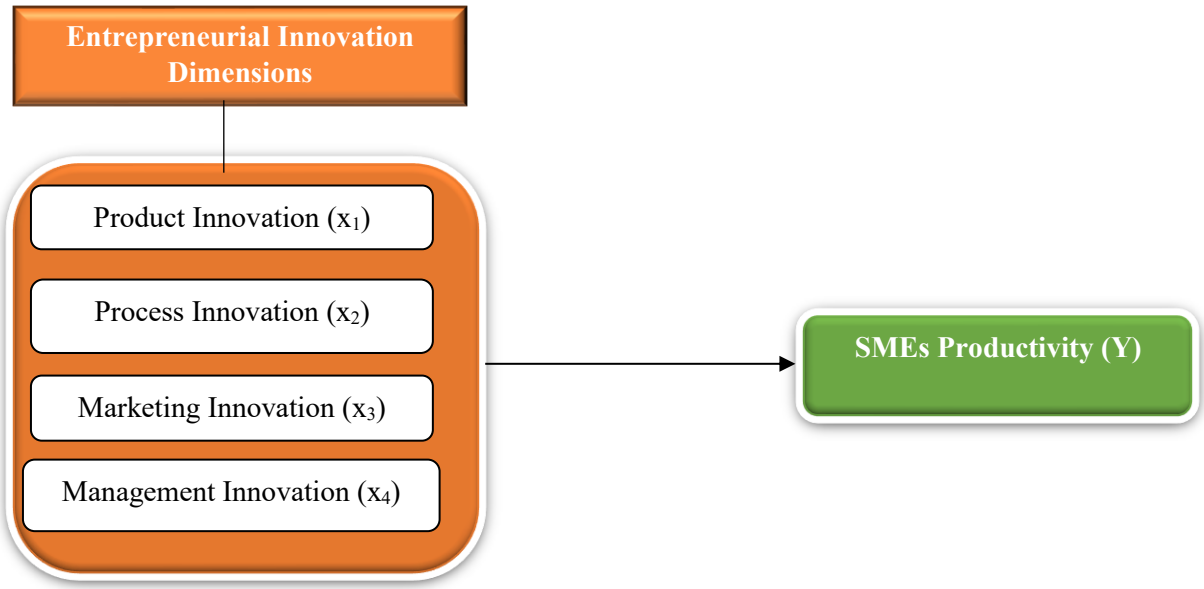


**Figure 1: Conceptual Model (entrepreneurial innovation and SMEs productivity)**
**Source: Authors' Research Model (2026)**

The figure above presented the conceptual model based upon the review of literature and it showed the link between entrepreneurial innovation dimensions (product, process, marketing, and management innovations) and SMEs productivity.

**Theoretical Framework**

**Resource-Based View (RBV) Theory**

Penrose created this theory to explain how an organization's internal resources contribute to the development of a long-lasting competitive edge in the marketplace. According to Penrose (1959), some participants in an industry are perceived to perform better than others in the same industry on a consistent basis owing to well-organized and valuable resources, and this is a factor in an organization's competitiveness. Among other scholars, Barney (1991), Peteraf and Bergen (2003), Rumelt (1987) and Wernerfelt (1984) support Penrose's position. RBV, as defined by Barney (1991), refers to the variety in organizational ranks within an industry. According to this theory, various scholars have suggested that it is fair for an entity to claim a competitive advantage if it successfully and efficiently utilizes its resources.

The RBV theory holds that although an organization is endowed with a variety of resources, not all of them significantly help in achieving the firm's competitive advantage. It is expected that an organization dissects its resources before designing any strategy (Eisenhardt & Martin, 2000). This is understandable, because an organization's resources will eventually reveal how productive the company had been and by extension the performance of the firm and the sustainability of the strategy adopted. This theory can be used in this study to help SMEs understand the value of

their resources and talents, especially when implementing an innovative strategy. It reveals that in order to increase performance, every SMEs must identify its resources and employ them effectively.

## 3. Methodology

This section describes the techniques and procedures to be used by the researchers in conducting the study and gathering data for the study. The registered SMEs operating in the five administrative divisions of Lagos State are: Ikeja, Badagry, Ikorodu, Lagos and Epe (IBILE) divisions. Survey research design was adopted for the study and the target population for this study are the owners/managers of the SMEs selected out of a population of 42,067 (SMEDAN, 2021).

The study was conducted with data gathered from business owners/managers where every respondent was asked to give data on their businesses and insightful information on innovation activities, and their relevance to the productivity of the selected firms. The study was limited to Lagos State, Nigeria, with the highest concentration of SMEs.

The justification for choosing Lagos State is that the state is considered as the economic nerve of Nigeria and is the most populous and financially vibrant state in Nigeria. Moreover, as a result of its cosmopolitan nature, Lagos State had the highest number of registered SMEs across all classes of enterprises operating in Nigeria. The justification of the selected SMEs is that these SMEs have been found engaged in variety of businesses for five years and above and to some extents have also been involved in the process of innovative activities in their various organisations.

The population distribution of these SMEs is shown in Table 1 below.

**Table 1**

*The population of study*

| S/N | Small and Medium Enterprises (SMEs) in Lagos State | Population |
|---|---|---|
| 1. | Small | 37,135 |
| 2. | Medium | 4,932 |
| | **Total** | **42,067** |

**Source: MSME Survey Report (2024)**

A cross-sectional research design was adopted. The design was adopted because the data were collected from the respondents across sampled selected SMEs at a single time. As the name suggests, a cross-sectional study aims to obtain a representative sample by taking a cross-section of the study population (Rahi, 2017). The population comprised 42,067 owners/managers of SMEs in Lagos State, Nigeria. A sample size of 495 of the study was determined using Cochran's (1977) formula.

The justification for using Cochran sample size formula is that it allows researchers to compute an appropriate sample size given a desired degree of precision, a desired level of confidence, and the estimated proportion of the attribute present in the population. It also helps to obtain the sample and use the results to make sampling decisions based on the data (Bartlett et al., 2001).

From the population of 42,067, 495 were identified as the sample size for the study which covers the selected SMEs. The (SMEs) owners/managers were to be covered because of the objectives that this study intends to achieve. The sample size for SMEs is shown in Table 2 below:

**Table 2**

*Proportionate Distribution of Population*

| SMEs | Population | Proportionate Distribution | Percentage |
|---|---|---|---|
| Small | 37,135 | $\frac{37,135}{42,067} x \frac{495}{1} = 437$ | 88% |
| Medium | 4,932 | $\frac{4,932}{42,067} x \frac{495}{1} = 58$ | 12% |
| **Total** | **42,067** | **495** | **100** |

**Source: Researchers' Computation (2024)**

Of the 495 questionnaires distributed, 412 copies were returned, representing approximately 83%. The remaining 80 questionnaires (17%) were either not returned or not properly completed. According to Wimmer and Dominick (2006), this response rate is excellent, as it far exceeds the minimum threshold of 50% recommended by Mugenda and Mugenda (2003) for statistical analysis. Simple random sampling technique was employed to select the respondents, while the sampling unit consist of owners or managers of the selected SMEs in Lagos State.

The study considered these potential respondents because they possessed the capacity to provide answers and are involved in the decision-making process and major activities that have to do with innovation processes and also in full control of daily management of their organisations. As a result, this category of staff was selected because they can provide the needed information on the indices of the variables, as provided in the questionnaire.

A structured questionnaire was adopted for data collection. The justification for the use of questionnaire was its advantages because it allows for a large number of information to be collected from a large number of people in a short time period and the possibility of quick analysis of result from the questionnaire as well as the ease of quantification, which aids scientific analysis of the results.

In addition, the questionnaire was pre-tested on 50 SMEs in other part of the State that were not part of the target population to validate the instrument**.** The study used Cronbach's Alpha to ascertain the reliability of the research instrument. Generally, a reliability value of 0.70 is regarded as good. Hence, the results in Table 3 demonstrate that the reliability of the instrument is adequate (Barbera et al., 2021; Imasuen, 2022). To improve the content validity of the instrument, the questionnaire was administered to experts, and suggestions were incorporated into the final draft.

All the measures of entrepreneurial innovation dimensions and SMEs' productivity were intertwined in sequence to scale back the problem of common method variance (CMV). Further, the participants were assured of information secrecy of the data provided. Current studies have used this method in data collection to help reduce CMV problems (Acquaah & Agyapong, 2015). Data generated from the field were analyzed using multiple linear regression with the assistance of Software Package for Social Science (SPSS).

**Table 3**

*Reliability Results*

| S/N | Variables | Items | Cronbach's Alpha | Composite Reliability |
|---|---|---|---|---|
| 1 | Product innovation | 5 | 0.838 | 0.816 |
| 2 | Process innovation | 5 | 0.847 | 0.791 |
| 3 | Marketing innovation | 5 | 0.758 | 0.889 |
| 4 | Management innovation | 5 | 0.724 | 0.804 |
| 5 | Productivity | 5 | 0.814 | 0.842 |

**Source**: **Researchers' Field Survey (2024)**

## 4. Results and Discussion

The study employed descriptive and inferential statistical techniques to achieve its objectives. The descriptive analysis includes frequencies, percentages, mean, and standard deviations. Regression analysis was employed to test the hypothesis.

**Demographic Profile of Respondents**

The results of the analysis of the demographic variables are provided in Table 4 below. The essence of this analysis is to assess the profile of respondents to determine their ability to respond to measures of entrepreneurial innovation practices and organisation productivity in the selected SMEs.

**Table 4**

*Demographic Details of the Respondents: N 412*

| S/N | Variables | | Responses/Frequency | Percentage % |
|---|---|---|---|---|
| 1. | Gender | Male | 392 | 95.1 |
| | | Female | 20 | 4.9 |
| 2. | Age | 20-39 years | 154 | 37.4 |
| | | 40-49 years | 139 | 33.7 |
| | | 50 years and above | 119 | 28.9 |
| 3. | Marital Status | Married | 387 | 93.9 |
| | | Single | 25 | 6.1 |
| 4. | Qualifications | WAEC/SSCE | 2 | 0.5 |
| | | OND/NCE | 55 | 13.3 |
| | | HND/BSc. | 289 | 70.2 |
| | | Postgraduate | 66 | 16.0 |
| 5. | Employment Status | Owner | 333 | 80.8 |
| | | Manager | 79 | 19.2 |
| 6. | Years of Experience | Less than 5 years | 121 | 29.4 |
| | | 5-10 years | 162 | 39.3 |
| | | 11-15 years | 101 | 24.5 |
| | | Above 15 years | 28 | 6.8 |

**Source: Researchers' elaboration (2024)**

Table 4 displays the demographic details of the respondents for this study. The gender distribution of the 392 sampled respondents was 95.1% males and 4.9% females. Most of the respondents, approximately 71.1%, fell within the age range of 20-49 years. Majority of the respondents are married representing 93.9%. Out of the 412 respondents, 99.5% were graduates representing the highest number of owners/managers that participated in the study. In terms of work experience, the majority of the respondents had 5 to 15 years. The foregoing analysis attests to the competency of sampled respondents in providing the requisite information for answering research questions and testing hypothesis.

**Test of Hypotheses**

The hypothesis of the study was tested using multiple regression analysis. Entrepreneurial innovation dimensions are the independent variable, while SMEs productivity is the dependent variable in the regression model. Tables 5 below displays the result of the hypothesis testing at a 0.05 significance level (95% confidence level).

**$H_{01}$**: Entrepreneurial innovation dimensions have no significant effect on productivity of selected SMEs in Lagos State, Nigeria.

**Table 5**

*Summary of Multiple Regression Analysis of the effect of Entrepreneurial Innovation on Productivity of Selected SMEs in Lagos State*

| N | Model | B | Sig. | T | ANOVA (Sig.) | R | Adjusted $R^2$ | F (4,398) |
|---|---|---|---|---|---|---|---|---|
| 412. | (Constant) | 2.242 | .025 | 2.258 | 0.000[b] | 0.766[a] | 0.582 | 140.879 |
| | Product Innovation | .171 | .001 | 3.275 | | | | |
| | Process Innovation | .452 | .000 | 8.234 | | | | |
| | Market Innovation | .231 | .000 | 3.822 | | | | |
| | Management Innovation | .058 | .178 | 1.349 | | | | |

a. Dependent Variable: Productivity

b. Predictors: (Constant), Product, Process, Market, Management innovations

**Source: Researchers' Field Results, 2024**

Table 5 revealed the multiple regression analysis results for the components of entrepreneurial innovation on the productivity of selected SMEs in Lagos State, as a case study. The results showed that product innovation ($\beta = 0.171$, $t = 3.275$, $p<0.05$), process innovation ($\beta = 0.452$, $t = 8.234$, $p<0.05$), market innovation ($\beta = 0.231$, $t = 3.822$, $p<0.05$) have a positive and significant effect on the productivity of the selected SMEs in Lagos State. However, the analysis indicates that the influence of management innovation on productivity is not statistically significant at the conventional alpha level of 0.05.

The coefficient for management innovation is 0.058 ($t = 1.349$, $p = 0.178$), suggesting that, while there may be a positive relationship between management innovation and productivity, it does not reach the threshold for statistical significance in this study. Possibly, the effect of related factors such as low internal capabilities in SMEs, might have induced this outcome (Gelinas & Bigras, 2004; Williams & Ramdani, 2018). Therefore, given that some extant studies (Afriyie et al., 2019; Ali et al., 2019; Azeem et al., 2021; Waheed et al., 2019; Woltier et al., 2021) have affirmed that organisational innovation influences SME productivity, it might be worthwhile to consider the interaction influences of other variables in the relationship.

These results emphasize the importance of process innovation, product innovation, and market innovation in driving productivity improvements within SMEs. However, the role of management innovation in enhancing productivity warrants further investigation. The null hypothesis **$H_{01}$,** which posited that entrepreneurial innovation dimensions have no significant effect on productivity, is partially rejected based on the significant impacts of product innovation, process innovation, and market innovation.

The *R-value* of 0.766 supports this result and it indicates that entrepreneurial innovation components have a strong positive relationship with the productivity of selected SMEs in Lagos State. The coefficient of multiple determination Adj. $R^2$ = 0.582 indicates that about 58.2% of variation that occurs in the productivity of selected SMEs in Lagos State, can be accounted for by the components of entrepreneurial innovation, while the remaining 41.8% of changes that occur are accounted for by other variables not captured in the model. The multiple regression model is thus expressed as:

PROD=2.242+0.171PRI+0.452PSI+0.231MKI+0.058MGI+Ui----Eqn 4 .1 (Predictive Model)

PROD=2.242+0.171PRI+0.452PSI+0.231MKI+Ui----------Eqn 4.1 (Prescriptive Model)

Where: PROD = Productivity; PRI = Product Innovation; PSI = Process Innovation; MSI = Market Innovation; MGI = Management Innovation.

The regression model indicates that, when all entrepreneurial innovation components are held at zero, the level of productivity would be 2.242, which is a positive value. In the predictive model, all factors demonstrate a positive and substantial impact. Therefore, the management aims to include all variables in the prescriptive model. The results of the multiple regression analysis, as observed in the prescriptive model, demonstrate that enhancing each of the entrepreneurial innovation variables (product innovation, process innovation, market innovation, and management innovation) by one unit leads to corresponding increases in productivity by 0.171, 0.452, 0.231, and 0.058, respectively. This suggests that an escalation in product innovation, process innovation, market innovation, and management innovation will lead to a rise in the level of productivity for (SMEs) in Lagos State, Nigeria.

The F-statistics (df = 4, 398) = 140.879 at p = 0.000 ($p<0.05$) indicates that the overall model is significant in predicting the effect of entrepreneurial innovation components on productivity. This suggests that entrepreneurial innovation components play a crucial role in determining the productivity of selected SMEs in Lagos State. The findings indicate that small and medium-sized enterprises (SMEs) should prioritize the development of the various elements of entrepreneurial innovation, as highlighted in this study, to enhance their productivity. Thus, the null hypothesis $H_0$, stating that entrepreneurial innovation has no significant effect on the productivity of selected SMEs in Lagos State, was rejected.

**Discussion of Findings**

The test of hypothesis revealed that entrepreneurial innovation has a significant effect on the productivity of selected SMEs in Lagos State. The findings of the study resonate with numerous existing studies that support the positive relationship between entrepreneurial innovation and productivity in SMEs. From an empirical perspective, the finding in hypothesis regarding the significant effect of entrepreneurial innovation on SMEs' productivity in Lagos State, aligns with several existing studies. For instance, Woltier et al. (2021) examined innovation labour productivity in the Netherlands and

found that both product and process innovation positively impacted organizational productivity.

Similarly, Afriyie et al. (2019) observed a positive and significant impact of innovation and technology on SMEs' productivity in Pakistan. These findings resonate with the notion that innovation, whether in products, processes, or technology, tends to enhance productivity within organisations. Furthermore, the study by Nguyen et al. (2021) on tourism SMEs in Australia corroborates this, demonstrating the positive relationship between marketing and technology innovation and firm productivity. Thus, the empirical evidence suggests a consistent pattern wherein entrepreneurial innovation contributes significantly to SMEs' productivity across different contexts.

Conversely, some studies diverge from the findings supporting the hypothesis. For instance, while Woltier et al. (2021) found a positive relationship between innovation and productivity, Rajesh and Kunal (2016) highlighted the significance of reforms and technological shifts in enhancing productivity in the manufacturing sector in India. These studies may not directly negate the relationship between entrepreneurial innovation and SMEs' productivity, but emphasize alternative factors influencing productivity.

Similarly, Adegboye and Iweriebor (2018) focused on the impact of access to finance on SMEs innovation and productivity, suggesting that financial resources play a crucial role alongside innovation. Therefore, while some studies may not explicitly support the direct link between entrepreneurial innovation and SMEs' productivity, they underscore the multifaceted nature of productivity drivers within SMEs, including but not limited to innovation.

## 5. Conclusion and Recommendations

This study concludes that entrepreneurial innovation has been found to significantly affects productivity of selected SMEs in Lagos State. This implies that by fostering a culture of innovation and embracing novel approaches, these SMEs are able to differentiate themselves from competitors, create unique value propositions, and effectively position themselves in the marketplace.

The significant impact of entrepreneurial innovation on productivity underscores its importance as a strategic lever for SMEs seeking to thrive in dynamic and fiercely competitive environments. Therefore, the study recommends that Small and Medium-sized Enterprises (SMEs) should actively cultivate and nurture a culture of entrepreneurial innovation within their organisational frameworks. This necessitates the establishment of an environment that not only tolerates, but also encourages creativity, risk-taking, and experimentation among employees at all levels.

By fostering such a culture, SMEs can harness the diverse talents and perspectives of their workforce to generate novel ideas, solutions, and approaches to business challenges. This proactive approach to innovation instils a mind-set of continuous improvement and adaptation, positioning SMEs to seize opportunities and effectively navigate dynamic market landscapes.

**Suggestions for Future Research**

Although, this study adds to the body of knowledge, there are still opportunities for future research. For example, the theoretical framework of the study can be examined in different sectors, or in the same sector, but in different countries. Future research in other countries could compare similarities and differences with these research findings. For the case of Lagos State, a longitudinal approach could be employed to verify the findings of the study.

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