



Green Entrepreneurship and the Performance of Small and Medium Enterprises in North Eastern Nigeria: The Role of Entrepreneurship Hubs

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Abstract: *Green entrepreneurship has emerged as a key driver of sustainable business practices, particularly in regions facing environmental and economic challenges. This study examined the impact of green entrepreneurship on the performance of Small and Medium Enterprises (SMEs) in North Eastern Nigeria, with a focus on the moderating role of entrepreneurship hubs. Using a quantitative research approach, data were collected from 234 SMEs registered with the Small and Medium Enterprise Development Agency of Nigeria (SMEDAN) and analyzed using Spearman Rank Order Correlation and multivariate analysis. The findings reveal a strong and positive relationship between green entrepreneurship and SME performance, particularly in profitability, quality of service delivery, and customer satisfaction. Furthermore, entrepreneurship hubs significantly enhance the effectiveness of green entrepreneurship by providing access to financing, mentorship, and modern technology. However, the study identifies challenges such as inadequate infrastructure, limited access to funding, and a lack of technical knowledge among entrepreneurs. The research underscores the importance of policy interventions, increased financial support, and enhanced entrepreneurship hub activities to drive sustainable business growth in the region. These findings contribute to the growing discourse on green entrepreneurship and provide valuable insights for policymakers, business owners, and development agencies.*

Key words: *Green Entrepreneurship, Small and Medium Scaled Enterprises, Entrepreneurship Hubs, Sustainability, Business Performance.*

Introduction

Green entrepreneurship refers to the creation and operation of environmentally sustainable businesses that seek to mitigate the negative impact of human activities on the environment (Purwandani & Michaud, 2021). The concept of green entrepreneurship has gained significant attention in recent years, particularly in the face of the ongoing climate crisis. In North Eastern Nigeria, small and medium-sized enterprises (SMEs) play a crucial role in the economy, and their performance is critical to the region's overall development. This study would explore the role of green entrepreneurship and

entrepreneurship hubs in the performance of SMEs in North Eastern Nigeria. According to Folorunso and Folorunso, (2022), the region of North Eastern Nigeria faces significant environmental challenges, including deforestation, desertification, and soil degradation. These issues have been exacerbated by climate change, which has led to longer dry seasons and increased instances of drought. As a result, local communities have experienced food insecurity, reduced access to clean water, and increased poverty levels. However, entrepreneurs in the region have the potential to address these issues by creating sustainable businesses that promote environmental conservation and preservation (Dawo, Long & De Jong, 2023).

In the opinion of Anabaraonye, Nwobu, Nwagbo, Ewaa and Okonkwo, (2022) green entrepreneurship is particularly important in North Eastern Nigeria because it can help to address environmental challenges while creating jobs and generating income. SMEs that engage in green entrepreneurship can produce products and services that are environmentally friendly, such as solar panels, energy-efficient appliances, and organic food products (Chandel, 2022). These businesses can also provide environmental services, such as waste management and recycling. By doing so, they can help to reduce the region's carbon footprint and promote sustainable development. However, SMEs in North Eastern Nigeria face several challenges that limit their ability to engage in green entrepreneurship. According to Khan, (2022), these challenges include limited access to financing, inadequate infrastructure, and a lack of business skills and knowledge. Additionally, many entrepreneurs in the region lack access to modern technology, which can limit their ability to compete in the global market (Redjeki & Affandi, 2021).

Entrepreneurship hubs can play a crucial role in addressing these challenges and promoting green entrepreneurship in North Eastern Nigeria. These hubs provide entrepreneurs with access to financing, business training, and mentorship (Mwantimwa, Ndege, Atela & Hall, 2021). They also provide access to modern technology and infrastructure, which can help SMEs to operate more efficiently and effectively. Moreover, entrepreneurship hubs can create an ecosystem of collaboration and innovation that fosters the development of sustainable businesses (Sassanelli & Terzi, 2022). The performance of SMEs in North Eastern Nigeria can be significantly improved through the establishment of entrepreneurship hubs. These hubs can provide entrepreneurs with the necessary resources and support to develop and grow their businesses. Moreover, entrepreneurship hubs can promote collaboration and networking, which can help SMEs to expand their customer base and reach new markets. This can lead to increased revenue and profitability, which can contribute to the region's overall economic development.

Green entrepreneurship is an evolving trend globally with relatively few studies in general and the north eastern Nigeria in particular and the need to step down its impact specifically on the performance of SMEs in the North Eastern part of Nigeria examining the role played by entrepreneurial hubs forms the premise for this study

Statement of the Problem and Justification for the Study

Despite growing global awareness and initiatives towards sustainable development, there remains a gap in understanding the extent to which green entrepreneurship influences the performance of Small and Medium Enterprises (SMEs) in North Eastern Nigeria. Additionally, the specific role played by entrepreneurship hubs in facilitating green entrepreneurship and its impact on SME performance in this region remains underexplored.

Consequently, there is a need to investigate the relationship between green entrepreneurship initiatives, the presence of entrepreneurship hubs, and the performance outcomes of SMEs in North Eastern Nigeria. This study aims to address this gap by examining the contributions of green entrepreneurship to the performance of SMEs, assessing the effectiveness of entrepreneurship hubs in promoting the activities of these SMEs.

The justification for studying the topic of "green entrepreneurship and the performance of SMEs" lies in the need to understand the potential benefits of green entrepreneurship for SMEs. The study will seek to investigate the impact of green entrepreneurship on the performance of SMEs, particularly in terms of financial performance, environmental impact, and customer loyalty. The study will also explore the potential barriers to adopting green business practices and how these barriers can be overcome. The findings of this study can inform policy and practice, promoting the adoption of green entrepreneurship and encouraging SMEs to embrace sustainable business practices. Ultimately, the study will contribute to the development of a more sustainable economy and a healthier planet.

The study was guided by the following objectives:

1. To assess the relationship between green entrepreneurship and the profitability of SMEs in North Eastern Nigeria
2. To evaluate the relationship between green entrepreneurship and the quality of service delivery of SMEs in North Eastern Nigeria
3. To assess the relationship between green entrepreneurship and the customers satisfaction of SMEs in North Eastern Nigeria
4. To analyze the roles played by entrepreneurial hubs in the relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria

Literature Review

Theoretical Review

Ecopreneurship Theory

Ecopreneurship theory posits that entrepreneurs can identify and exploit opportunities to create sustainable businesses that address environmental challenges while generating profits (Schlange, 2009). This theory emphasizes the importance of stakeholder engagement and partnerships to address environmental challenges. Ecopreneurs are

entrepreneurs who operate in an environmentally conscious manner and take into account environmental issues in their business decisions (Gibbs, (2009).

Ecopreneurship theory is based on the principles of sustainable development, which means meeting the needs of the present without compromising the ability of future generations to meet their own needs (Gerlach, 2003). Ecopreneurs aim to develop businesses that meet social and environmental needs while generating economic value. This theory also highlights the importance of policy frameworks that support the development of sustainable businesses and the engagement of stakeholders in promoting environmental sustainability.

Sustainability-Oriented Innovation Theory

Sustainability-oriented innovation theory emphasizes the importance of innovation in promoting sustainable development (Ghassim & Bogers, 2019). This theory posits that entrepreneurs can create new and innovative products and services that address environmental challenges while meeting the needs of customers (Dean & McMullen, 2007). The focus is on creating products and services that are environmentally sustainable and meet the needs of customers in a cost-effective manner.

Sustainability-oriented innovation theory highlights the role of stakeholders in promoting sustainable innovation. Entrepreneurs need to collaborate with stakeholders, including customers, suppliers, investors, and government agencies, to develop sustainable products and services (Svendsen, 1998). The theory also emphasizes the importance of policy frameworks that support sustainable innovation.

Conceptual Framework

A conceptual framework is a survey instrument that comes in different forms and contexts. It is used to organize thoughts and make theoretical qualifications. A fair structure suggests the relationships between the variables under consideration and illustrates them visually or diagrammatically (Litster, Hurst & Cardoso, 2023). Green Entrepreneurship would be the independent variable, and the dependent variable would be performance of SMEs.

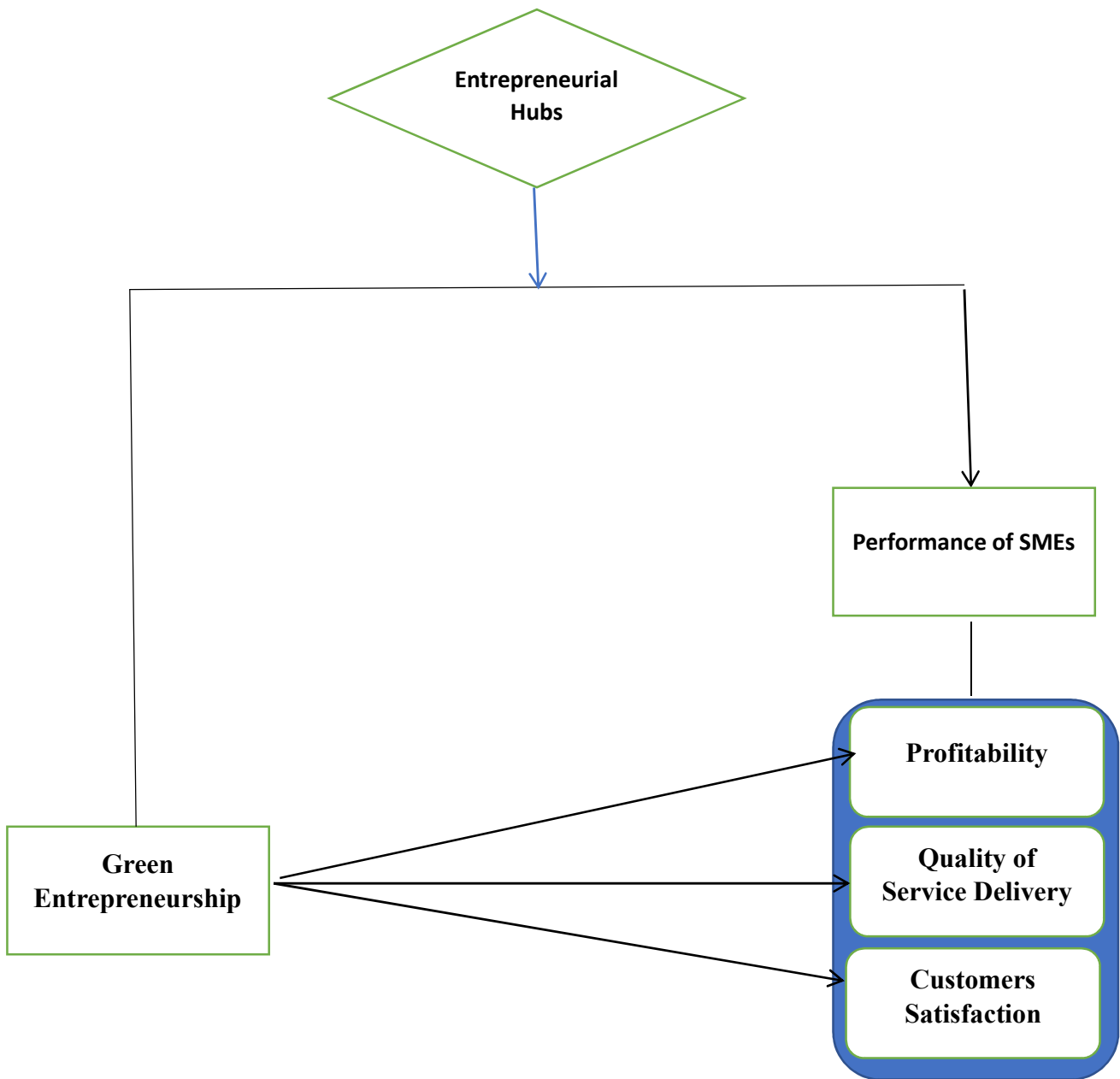


Fig.1 Conceptual framework showing the relationship between Green Entrepreneurship and Performance of SMEs

Source: Desk Research, 2024.

H01: There is no significant relationship between green entrepreneurship and the profitability of SMEs in North Eastern Nigeria

H02: There is no significant relationship between green entrepreneurship and the quality of service delivery of SMEs in North Eastern Nigeria

H03: There is no significant relationship between green entrepreneurship and the customers satisfaction of SMEs in North Eastern Nigeria

H04: Entrepreneurial hubs do not play significant on the relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria

Concept of Green Entrepreneurship

Green entrepreneurship is a business concept that focuses on creating and running a sustainable business that promotes environmental conservation and social responsibility (Rajagopal, 2023). It involves utilizing innovative and eco-friendly technologies, products, and services to address environmental and social issues while generating profit. The goal of green entrepreneurship is to balance economic growth and environmental sustainability (Prasetyo, Azwardi & Kistanti, 2023). It is a business model that combines the principles of sustainability, social responsibility, and profit. Mondal, Singh and Gupta, (2023) posits that the focus of green entrepreneurship is not just on the profitability of a business, but also on its impact on the environment and society.

Green entrepreneurs often have a passion for the environment and sustainability (Francis & Fraga 2023). They are driven by a desire to make a positive impact on the world while generating income. Green entrepreneurs recognize the importance of reducing carbon footprint, conserving natural resources, and promoting social equity. Green entrepreneurship is not limited to a specific industry. It can be applied to any sector, including renewable energy, green construction, sustainable agriculture, eco-tourism, and sustainable fashion. Green entrepreneurs are creative problem solvers who identify environmental and social problems and come up with innovative solutions to address them.

Green entrepreneurship has many benefits. It can lead to increased brand recognition, customer loyalty, and a competitive advantage in the marketplace (Li, Wang & Zhang, 2023). It can also lead to increased cost savings by reducing waste and energy consumption, as well as access to financing and grants from environmentally-focused organizations. Green entrepreneurship is a business concept that promotes environmental conservation, social responsibility, and profit (Castillo-Benancio, Alvarez-Risco, Almanza-Cruz, Leclercq-Machado, Esquerre-Botton, De las Mercedes Anderson-Seminario & Del-Aguila-Arcentales, 2023). It is an innovative approach to business that recognizes the importance of sustainability and is focused on finding solutions to environmental and social problems.

Concept of Performance of Small and Medium Enterprises

According to Ismail, Hassan and Rahmat, (2023), small and medium enterprises (SMEs) are an important sector of the economy, contributing significantly to employment and economic growth. The performance of SMEs can be measured in a variety of ways, including financial and non-financial indicators (Koech, 2023). According to Navaia, Moreira and Ribau, (2023), financial indicators are the most commonly used measures of

SME performance. These include profitability, liquidity, efficiency, and solvency ratios. Profitability ratios measure the ability of a business to generate profits, while liquidity ratios measure the ability of a business to meet its short-term financial obligations (Abraham, Ufomba & Adubasim, 2025). Efficiency ratios measure the ability of a business to manage its resources effectively, while solvency ratios measure the ability of a business to meet its long-term financial obligations (Adubasim & Ufomba, 2024).

Non-financial indicators of SME performance include measures such as employee satisfaction, customer satisfaction, innovation, and social responsibility (Anning-Dorson, 2023). Employee satisfaction is important for the performance of SMEs because it can impact the quality of the goods and services they provide. Customer satisfaction is an important measure of SME performance because it can impact the retention of customers and the growth of the business (Adubasim, Unaam & Ejo-Orusa, 2018). Innovation is important for the performance of SMEs because it can lead to the development of new products and services that can provide a competitive advantage. Social responsibility is also an important measure of SME performance, as it can impact the reputation of the business and the loyalty of customers (Vuong & Bui, 2023).

In addition to financial and non-financial measures of SME performance, there are several other factors that can impact the performance of SMEs (AlShehhi, Cherian, Farouk & Al Nahyan, 2023). These include access to finance, access to markets, regulatory environment, and human resources. Access to finance is important for SMEs because it can impact their ability to invest in new products, services, and technologies. Access to markets is important because it can impact the ability of SMEs to reach new customers and expand their business. The regulatory environment is important because it can impact the cost of doing business and the ability of SMEs to compete. Human resources are important for the performance of SMEs because they can impact the quality of the workforce and the ability of the business to innovate and grow.

Relationship between Green Entrepreneurship and Performance of Small and Medium Enterprises

Soomro, Moawad, Saraih, Abedelwahed and Shah, (2023) posits that green entrepreneurship is an emerging trend that has gained increasing attention due to the growing concerns about the environment and sustainable development. It refers to the process of creating or developing a business venture that aims to provide innovative solutions to environmental issues while generating economic benefits. Small and Medium Enterprises (SMEs) play a significant role in driving economic growth and development in many countries (Uesugi & Afolayan, 2023). The performance of SMEs can be affected by various factors, including the adoption of green entrepreneurship practices. The adoption of green entrepreneurship practices has been found to positively impact the performance of SMEs in terms of innovation, productivity, competitiveness, and financial performance (Yadegaridehkordi, Foroughi, Iranmanesh, Nilashi & Ghobakhloo, 2023).

One important factor that can facilitate the adoption of green entrepreneurship practices among SMEs is the existence of entrepreneurship hubs (Zakariah, Muhamed, Halif,

Chairdino, Leuveano & Muhamed, (2023). These hubs are physical or virtual spaces that bring together entrepreneurs, innovators, investors, and other stakeholders to foster collaboration, networking, and knowledge sharing. They provide a supportive environment that enables SMEs to access resources, skills, and expertise that they might not have otherwise. Entrepreneurship hubs can play a vital role in promoting green entrepreneurship among SMEs. They can provide SMEs with access to funding, mentorship, training, and other resources that are essential for developing and implementing green business models (Hagawe, Mobarek, Hanuk & Jamal, 2023).

There is paucity of research focusing specifically on how green entrepreneurship initiatives, especially those facilitated through entrepreneurship hubs, affect the performance of SMEs in this region. While entrepreneurship hubs are gaining prominence as catalysts for entrepreneurial activities, their specific role in promoting green entrepreneurship and its subsequent impact on SME performance in Northeastern Nigeria may not have been adequately explored. Hence the need for this study.

Methodology

The study was carried out in the North Eastern Geo Political Zone of Nigeria covering 600 selected SMEs registered with Small and Medium Enterprise Development Agency of Nigeria, SMEDAN and Entrepreneurship Hubs in states in the Zone. The Krejcie and Morgan table was used to arrive at 234 respondents as the sample size. Primary data were gathered using specially created questionnaires that were administered to the selected SMEs. Inferential statistics was used in this study's data analysis to draw conclusions and inferences. SPSS 23.0 was used to analyze the data that was collected. The study employed the Spearman Rank Order Correlation to test for direct relationship while multivariate analysis was used to test the moderating relationship.

Data Analysis and Result Presentation

Table 1 Correlation Matrix for the Relationship Between Green Entrepreneurship and Measures of Performance

| | | | Green Entrepreneurship | Profitability | Quality of Service Delivery | Customer Satisfaction |
|----------------|-----------------------------|-------------------------|------------------------|---------------|-----------------------------|-----------------------|
| Spearman's rho | Green Entrepreneurship | Correlation Coefficient | 1.000 | .805** | .853** | .863** |
| | | Sig. (2-tailed) | . | .000 | .000 | .000 |
| | | N | 217 | 217 | 217 | 217 |
| | Profitability | Correlation Coefficient | .805** | 1.000 | .872** | .848** |
| | | Sig. (2-tailed) | .000 | . | .000 | .000 |
| | | N | 217 | 217 | 217 | 217 |
| | Quality of Service Delivery | Correlation Coefficient | .853** | .872** | 1.000 | .860** |
| | | Sig. (2-tailed) | .000 | .000 | . | .000 |
| | | N | 217 | 217 | 217 | 217 |
| | Customer Satisfaction | Correlation Coefficient | .863** | .848** | .860** | 1.000 |
| | | Sig. (2-tailed) | .000 | .000 | .000 | . |
| | | N | 217 | 217 | 217 | 217 |

** . Correlation is significant at the 0.01 level (2-tailed).

Table 1 shows the result of correlation matrix obtained for Green Entrepreneurship and the measures of the performance of SMEs in North Eastern Nigeria. Also displayed in the table is the statistical test of significance (p - value), which decides whether the hypotheses is accepted or rejected and generalize the findings of the study.

Hypothesis One

There is no significant relationship between green entrepreneurship and the profitability of SMEs in North Eastern Nigeria.

For the first relationship, that is green entrepreneurship and the profitability, R=0.805. This represents a high correlation indicating a strong and positive relationship between green entrepreneurship and the profitability of SMEs in North Eastern Nigeria. Similarly displayed in table is the statistical test of significance (p - value), which makes possible the generalization of our findings to the study population. From the result obtained the probability value is (0.000) < (0.05) level of significance; hence the study rejects the null hypothesis and concludes that there is a significant relationship between green entrepreneurship and the profitability of SMEs in North Eastern Nigeria.

Hypothesis Two

There is no significant relationship between green entrepreneurship and the quality of service delivery of SMEs in North Eastern Nigeria.

For this relationship, that is green entrepreneurship and quality of service delivery, $R=0.853$. This represents a high correlation indicating a strong and positive relationship between green entrepreneurship and quality of service delivery of SMEs in North Eastern Nigeria. Similarly displayed in table is the statistical test of significance (p - value), which makes possible the generalization of our findings to the study population. From the result obtained the probability value is $(0.000) < (0.05)$ level of significance; hence the study rejects the null hypothesis and concludes that there is a significant relationship between green entrepreneurship and the quality of service delivery of SMEs in North Eastern Nigeria.

Hypothesis Three

There is no significant relationship between green entrepreneurship and the customers' satisfaction of SMEs in North Eastern Nigeria.

For this relationship, that is green entrepreneurship and the customers' satisfaction, $R=0.863$. This represents a high correlation indicating a strong and positive relationship between green entrepreneurship and the customers' satisfaction of SMEs in North Eastern Nigeria. Similarly displayed in table is the statistical test of significance (p - value), which makes possible the generalization of our findings to the study population. From the result obtained the probability value is $(0.000) < (0.05)$ level of significance; hence the study rejects the null hypothesis and concludes that there is a significant relationship between green entrepreneurship and the customers' satisfaction of SMEs in North Eastern Nigeria.

Hypothesis Four

Entrepreneurial hubs do not play significant role in the relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria

The multivariate analysis in table 2 examines the perceived role of entrepreneurial hub as a moderator in the relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria. The partial correlation technique was used in testing the moderating effect.

Table 2 Correlations Matrix for the Moderating Effect of Entrepreneurial Hub on the Study Variable

| Control Variables | | | Green Entrepreneurship | Performance | Entrepreneurial Hub |
|---------------------|------------------------|-------------------------|------------------------|-------------|---------------------|
| -none ^a | Green Entrepreneurship | Correlation | 1.000 | .908 | .858 |
| | | Significance (2-tailed) | . | .000 | .000 |
| | | df | 0 | 217 | 217 |
| | Performance | Correlation | .908 | 1.000 | .924 |
| | | Significance (2-tailed) | .000 | . | .000 |
| | | df | 217 | 0 | 217 |
| | Entrepreneurial Hub | Correlation | .858 | .924 | 1.000 |
| | | Significance (2-tailed) | .000 | .000 | . |
| | | df | 217 | 217 | 0 |
| Entrepreneurial Hub | Green Entrepreneurship | Correlation | 1.000 | .589 | |
| | | Significance (2-tailed) | . | .000 | |
| | | df | 0 | 184 | |
| | Performance | Correlation | .589 | 1.000 | |
| | | Significance (2-tailed) | .000 | . | |
| | | df | 217 | 0 | |

a. Cells contain zero-order (Pearson) correlations.

Zero-order correlation between green entrepreneurship and the performance of SMEs in North Eastern Nigeria shows the correlation coefficient where entrepreneurial hub is not moderating the variables; and this is, indeed, both high (0.924) and statistically significant (p-value (=0.000) < 0.05). The partial correlation controlling for entrepreneurial hub, however, is (0.589) and statistically significant (p-value (= 0.000) < 0.05.).

The observed positive relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria is due to underlying relationships between each of those variables and entrepreneurial hub. Looking at the zero correlation, we find that both green entrepreneurship and the performance of SMEs in North Eastern Nigeria are highly positively correlated with entrepreneurial hub, the control variable. Removing the effect of this control variable reduces the correlation between the other two variables to be 0.589 and significant at $\alpha = 0.05$, therefore we reject the null hypothesis and conclude that: entrepreneurial hub significantly moderates the relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria.

Discussion of Findings

The findings of this study indicate a strong and positive relationship between green entrepreneurship and the performance of Small and Medium Enterprises (SMEs) in North Eastern Nigeria. The correlation analysis reveals that green entrepreneurship significantly contributes to

profitability, quality of service delivery, and customer satisfaction, with all relationships exhibiting high correlation coefficients. Additionally, the study finds that entrepreneurship hubs play a crucial moderating role, enhancing the impact of green entrepreneurship on SME performance. These findings underscore the importance of sustainable business practices in fostering economic growth while addressing environmental challenges in the region.

When compared to previous studies, these findings align with existing literature emphasizing the benefits of green entrepreneurship for SME development. For instance, prior research by Yadegaridehkordi et al. (2023) and Soomro et al. (2023) found that adopting green business practices enhances innovation, productivity, and financial performance. Moreover, the role of entrepreneurship hubs as facilitators of green entrepreneurship has been highlighted in studies such as Hagawe et al. (2023) and Zakariah et al. (2023), which emphasize the importance of access to funding, mentorship, and training in fostering sustainable business ventures. These parallels suggest that the trends observed in North Eastern Nigeria are consistent with global findings on green entrepreneurship and SME growth.

However, the study contributes new insights by focusing on the specific challenges and opportunities within the North Eastern Nigerian context, where environmental degradation and resource limitations pose significant hurdles to SME success. Unlike many previous studies that focus on developed economies or urban areas, this research highlights the potential of green entrepreneurship to drive economic resilience in regions facing environmental crises. By demonstrating the significant moderating effect of entrepreneurship hubs, the study provides a valuable framework for policymakers and business support organizations to design interventions that strengthen SME performance through sustainable practices.

Conclusion and Recommendations

This study has established a strong and positive relationship between green entrepreneurship and the performance of SMEs in North Eastern Nigeria. The findings indicate that SMEs engaging in green entrepreneurship experience increased profitability, improved service quality, and enhanced customer satisfaction. Additionally, the study highlights the critical role of entrepreneurship hubs in moderating this relationship, as they provide essential resources such as financing, business training, and mentorship that support SMEs in adopting sustainable business practices. By fostering innovation and collaboration, these hubs create an enabling environment for SMEs to thrive while contributing to environmental conservation.

Moreover, the research aligns with global studies that emphasize the economic and environmental benefits of green entrepreneurship. However, the study uniquely contributes to knowledge by examining the specific challenges faced by SMEs in North Eastern Nigeria, such as inadequate infrastructure, limited access to financing, and lack of business knowledge. These challenges often hinder SMEs from fully leveraging green business practices, underscoring the need for targeted interventions that address these constraints. The findings, therefore, provide valuable insights for policymakers, business owners, and development agencies looking to promote sustainable entrepreneurship in the region.

In conclusion, the study underscores the necessity of integrating green entrepreneurship into SME development strategies in North Eastern Nigeria. By strengthening the role of entrepreneurship hubs and addressing key barriers to green business adoption, stakeholders can enhance SME performance while advancing environmental sustainability. Given the increasing global shift towards sustainable business models, adopting green entrepreneurship is not only beneficial for business growth but also crucial for addressing pressing environmental challenges in the region.

Thus the study recommends that:

- i. Financial institutions and policymakers should develop tailored funding schemes, including grants and low-interest loans, to support SMEs in transitioning to sustainable business models.
- ii. Efforts should be made to enhance infrastructure, such as reliable electricity and internet connectivity, to enable SMEs to adopt modern green technologies and compete in broader markets.
- iii. Educational programs and workshops should be conducted to increase awareness of green entrepreneurship and equip SMEs with the necessary skills to implement sustainable business practices.
- iv. The government and private sector should invest in expanding and improving entrepreneurship hubs to provide SMEs with access to financing, training, and mentorship in green business practices.

Limitations and Recommendations for Future Studies

This study, while providing valuable insights into the relationship between green entrepreneurship and SME performance in North Eastern Nigeria, has certain limitations. First, the research is limited to a specific geographic region, making it difficult to generalize the findings to other parts of Nigeria or beyond. Additionally, the study relies on self-reported data from SMEs, which may introduce biases in responses. The use of correlation analysis, while effective in identifying relationships, does not establish causality, meaning that other external factors influencing SME performance may not have been fully accounted for.

Future studies should consider expanding the scope of research to include other regions in Nigeria and conduct comparative analyses to understand variations in green entrepreneurship adoption. Additionally, longitudinal studies could be conducted to assess the long-term impact of green entrepreneurship on SME performance. Further research could also explore sector-specific green business models and examine the role of government policies and incentives in promoting sustainable entrepreneurship. By addressing these gaps, future studies can provide a more comprehensive understanding of the dynamics of green entrepreneurship in developing economies.

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