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INVESTIGATING THE DETERMINANTS OF SMALL AND MEDIUM ENTERPRISES (SMEs) SUSTAINABILITY PRACTICES IN KOGI STATE, NIGERIA

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Abstract

Small and Medium Enterprises (SMEs) play a vital role in economic development, yet their adoption of sustainability practices remains underexplored, particularly in developing regions like Kogi State, Nigeria. This study investigates the determinants of sustainability practices among SMEs in Kogi State, focusing on internal and external factors such as financial resources, owner/manager awareness, government support, and market pressures. A survey research design was employed, with data collected from 200 SME owners and managers across three senatorial districts in Kogi State using a structured questionnaire. Descriptive statistics, principal component factor analysis, and binary logit regression were used to analyze the data. Findings reveal that lack of finance, limited awareness, and inadequate government support are significant barriers to sustainability practices, while customer demand and regulatory policies positively influence adoption. The study recommends targeted policy interventions, financial support, and awareness campaigns to enhance SME sustainability in Kogi State.

Keywords: Small and Medium Enterprises, sustainability practices, Kogi State, Nigeria, environmental sustainability, circular economy

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1.0 Introduction

Small and Medium Enterprises (SMEs) are pivotal to economic development, particularly in emerging economies like Nigeria, where they contribute significantly to employment, innovation, and gross domestic product (GDP) (Ojo et al., 2022). In Nigeria, SMEs account for approximately 48% of GDP and employ over 80% of the workforce, underscoring their role as economic engines (SMEDAN, 2023). However, the sustainability of SMEs, encompassing economic viability, social responsibility, and environmental stewardship, remains a critical concern amid global pressures for sustainable development (Bakos et al., 2020). Sustainability practices in SMEs, such as adopting green energy, waste management, and socially responsible operations, are essential for aligning with the United Nations Sustainable Development Goals (SDGs), particularly those related to responsible consumption and production (SDG 12) and climate action (SDG 13) (Zakari et al., 2022).

1.1 Definition Of Small and Medium Enterprises (SMEs)

Small and Medium Enterprises (SMEs) are businesses characterized by their relatively small size in terms of employee count, revenue, or total assets, operating across various sectors of the economy. The definition of SMEs varies globally, depending on the country, region, or institution providing the classification, as criteria such as the number of employees, annual turnover, and total assets differ based on economic contexts and regulatory frameworks. SMEs play a critical role in economic development, contributing significantly to employment, innovation, and gross domestic product (GDP) in both developed and developing economies. They are often seen as engines of growth due to their flexibility, adaptability, and ability to cater to niche markets.

In Kogi State, Nigeria, SMEs operate in a unique socio-economic and environmental context marked by challenges such as unreliable power supply, limited access to finance, and inadequate infrastructure (Yakubu et al., 2019). Kogi State, located in Nigeria's North-Central region, is a strategic economic hub due to its central location and natural resources, including mineral deposits and agricultural potential (Kogi State Government, 2023). Despite this, SMEs in the state face significant barriers to adopting sustainability practices, including high operational costs, limited managerial expertise, and weak policy support (Chendo, 2013). These challenges are compounded by external factors such as fluctuating market demands and insufficient government incentives for sustainable practices (Kannan & Gambetta, 2025).

The adoption of sustainability practices by SMEs is influenced by a complex interplay of internal and external determinants. Internal factors include managerial skills, financial resources, and owner-manager awareness of sustainability benefits, while external factors encompass government policies, infrastructure availability, and market pressures (Hossain et al., 2022). Existing literature highlights that SMEs in developing countries often struggle with resource constraints and lack of knowledge, which hinder their ability to implement sustainable practices (Bakos et al., 2020). In Nigeria, studies have explored SME sustainability at a national level, but there is a paucity of research focusing on region-specific contexts like Kogi State, where local economic and environmental dynamics may differ significantly (Yakubu et al., 2019).

This study addresses this gap by investigating the determinants of SME sustainability practices in Kogi State, Nigeria, with a focus on both internal and external factors. The research is grounded in theoretical frameworks such as the Resource-Based View (RBV), which posits that internal resources (e.g., finance, knowledge) drive competitive advantage and sustainability, and Stakeholder Theory, which emphasizes the role of external pressures

(e.g., customers, regulators) in shaping business practices (Hossain et al., 2022). Understanding these determinants is crucial for developing targeted interventions that enhance SME sustainability, thereby contributing to economic resilience and environmental conservation in Kogi State.

The significance of this study lies in its potential to inform policymakers, SME owners, and stakeholders about the barriers and enablers of sustainability practices in a region-specific context. By identifying key determinants, the study aims to provide actionable recommendations for fostering sustainable SME operations, which can enhance economic stability, create jobs, and mitigate environmental degradation in Kogi State. Furthermore, the findings may contribute to the broader discourse on sustainable development in Nigeria, aligning with national and global sustainability agendas (Zakari et al., 2022).

The study pursues the following objectives; To identify the internal determinants (e.g., managerial skills, financial resources, awareness) influencing SME sustainability practices in Kogi State, To explore the external determinants (e.g., government policies, infrastructure, market dynamics) affecting the adoption of sustainability practices by SMEs, and To assess the impact of these determinants on the implementation of sustainability practices in Kogi State SMEs.

To provide a clearer picture of the SME landscape in Kogi State, Table 1 summarizes key economic and operational characteristics based on available data.

Table 1: SME Characteristics in Kogi State, Nigeria

Indicator	Details
Number of SMEs	Approximately 120,000 (SMEDAN, 2023)
Major Sectors	Agriculture (40%), Services (35%), Manufacturing (20%), Others (5%)
Contribution to Employment	75% of local workforce (Yakubu et al., 2019)
Key Challenges	Unreliable power supply, limited finance, poor infrastructure (Yakubu et al., 2019)
Sustainability Practices	Low adoption (e.g., 25% use green energy, 15% engage in recycling) (SMEDAN, 2023)

Note: Data adapted from SMEDAN (2023) and Yakubu et al. (2019).

2.0 Sustainability of Small and Medium Enterprises (SMEs)

The sustainability of Small and Medium Enterprises (SMEs) has gained increasing attention globally due to their significant contributions to economic growth, employment, and innovation, particularly in developing countries like Nigeria (Ojo et al., 2022). SMEs in Nigeria account for approximately 48% of the national GDP and employ over 80% of the workforce, making their adoption of sustainability practices critical for economic and environmental resilience (SMEDAN, 2023). Sustainability practices in SMEs encompass economic viability, social responsibility, and environmental stewardship, aligning with the United Nations Sustainable Development Goals (SDGs), such as responsible consumption and production (SDG 12) and climate action (SDG 13) (Zakari et al., 2022). However, the

adoption of these practices is influenced by a range of internal and external determinants, which vary across regional contexts. This literature review examines the determinants of SME sustainability practices, focusing on internal factors (e.g., managerial skills, financial resources, awareness) and external factors (e.g., government policies, infrastructure, market dynamics), with a specific lens on the Nigerian and Kogi State context. It also identifies gaps in the literature to justify the need for a region-specific study in Kogi State.

2.1 Sustainability Practices in SMEs

Sustainability practices in SMEs involve integrating economic, social, and environmental considerations into business operations. These practices include adopting green energy, implementing waste management systems, engaging in corporate social responsibility (CSR), and ensuring long-term financial stability (Bakos et al., 2020). Globally, SMEs face unique challenges in adopting sustainability practices due to their limited resources and scale compared to larger corporations (Hossain et al., 2022). In developing countries, these challenges are amplified by structural issues such as inadequate infrastructure and limited access to finance (Yakubu et al., 2019). In Nigeria, SMEs are increasingly adopting sustainability practices like recycling and energy-efficient technologies, driven by rising consumer demand for environmentally friendly products and regulatory pressures (Ojo et al., 2022). However, the extent of adoption remains low, particularly in regions like Kogi State, where economic and infrastructural constraints are pronounced (Yakubu et al., 2019).

2.2 Internal Determinants of SME Sustainability Practices

Internal determinants refer to factors within the control of SMEs, such as managerial skills, financial resources, and owner-manager awareness. Zakariya et al. (2019) found that managerial skills, including strategic planning and environmental knowledge, significantly influence the adoption of sustainability practices. SMEs with managers who possess strong entrepreneurial skills are more likely to implement green practices, such as energy-efficient processes, due to their ability to innovate and adapt (Zakariya et al., 2019). However, in Nigeria, many SME managers lack formal training in sustainability, limiting their capacity to integrate such practices (Chendo, 2013).

Financial resources are another critical internal determinant. SMEs often face capital constraints, which hinder investments in sustainable technologies like solar panels or waste recycling systems (Ojo et al., 2022). In a study of Nigerian SMEs, Ojo et al. (2022) reported that limited access to credit and high borrowing costs were significant barriers to adopting green supply chain practices. Similarly, owner-manager awareness and attitude toward sustainability play a pivotal role. Chendo (2013) found that Nigerian SME managers with positive perceptions of environmental sustainability were more likely to adopt practices like waste reduction, but negative perceptions or lack of awareness often resulted in inaction.

2.3 External Determinants of SME Sustainability Practices

External determinants include factors outside the direct control of SMEs, such as government policies, infrastructure, and market dynamics. Government policies and regulations are critical drivers of sustainability practices. Kannan and Gambetta (2025) highlighted that supportive policies, such as subsidies for green technologies and tax incentives, encourage SMEs to adopt sustainable practices. In Nigeria, however, policy implementation is often inconsistent, with limited incentives for SMEs to transition to sustainable operations (Zakari et al., 2022). For instance, the Nigerian government's renewable energy initiatives have not been effectively tailored to SMEs, particularly in rural areas like Kogi State (Yakubu et al., 2019).

Infrastructure challenges, such as unreliable power supply and poor transportation networks, also hinder SME sustainability efforts. Yakubu et al. (2019) noted that in Kogi State, frequent power outages force SMEs to rely on costly diesel generators, reducing their ability to invest in sustainable alternatives like solar energy. Market dynamics, including customer demand and competitive pressures, further influence sustainability adoption. Hossain et al. (2022) found that SMEs responding to consumer preferences for eco-friendly products were more likely to implement sustainability practices. In Nigeria, growing awareness of environmental issues among urban consumers is driving some SMEs to adopt green practices, but this trend is less pronounced in Kogi State due to limited market awareness (Ojo et al., 2022).

2.4 Theoretical Frameworks

This study is grounded in two theoretical frameworks: the Resource-Based View (RBV) and Stakeholder Theory. The RBV posits that a firm's internal resources, such as financial capital, human skills, and technological capabilities, are critical for achieving competitive advantage and sustainability (Hossain et al., 2022). In the context of SMEs, the RBV explains how access to resources like finance and managerial expertise enables the adoption of sustainability practices. Stakeholder Theory complements this by emphasizing the role of external stakeholders, such as customers, regulators, and communities, in shaping SME behavior (Bakos et al., 2020). For instance, regulatory pressures or consumer demand for sustainable products can drive SMEs to prioritize environmental and social responsibility. These frameworks provide a robust lens for analyzing the interplay of internal and external determinants in Kogi State SMEs.

2.5 SMEs in Kogi State, Nigeria

Kogi State, located in Nigeria's North-Central region, is a strategic economic hub due to its central location and resource endowments, including agriculture and minerals (Kogi State Government, 2023). SMEs in Kogi State operate in sectors such as agriculture (40%), services (35%), and manufacturing (20%), employing approximately 75% of the local workforce (Yakubu et al., 2019). However, these SMEs face significant challenges, including unreliable electricity, limited access to finance, and inadequate infrastructure, which hinder their ability to adopt sustainability practices (Yakubu et al., 2019). For example, only 25% of SMEs in Kogi State use green energy, and 15% engage in recycling, reflecting low adoption rates compared to national averages (SMEDAN, 2023). These region-specific challenges underscore the need for localized studies to understand the determinants of sustainability practices.

2.6 Research Gap

While existing literature provides insights into SME sustainability globally and in Nigeria, there is a notable gap in region-specific studies, particularly in Kogi State. Most studies focus on national or urban contexts, overlooking the unique socio-economic and environmental dynamics of Kogi State, such as its infrastructural deficits and rural-urban divide (Yakubu et al., 2019). Furthermore, few studies integrate both internal and external determinants within a single framework, limiting the understanding of their combined impact on sustainability practices (Hossain et al., 2022). This study addresses these gaps by investigating the determinants of SME sustainability practices in Kogi State, using a mixed-methods approach to capture both quantitative trends and qualitative insights.

Table 2: Summary of Key Studies on SME Sustainability Determinants

Study	Region	Determinants Identified	Methodology	Findings
Bakos et al. (2020)	Global	Finance, knowledge, policy	Systematic review	Resource constraints limit SME sustainability adoption.
Chendo (2013)	Nigeria	Manager perception, finance	Survey	Negative perceptions and cost barriers hinder sustainability.
Hossain et al. (2022)	Global	Finance, knowledge, market demand	Systematic review	External pressures (e.g., customers) drive sustainability.
Ojo et al. (2022)	Nigeria	Finance, supply chain practices	Survey	Limited credit access restricts green practices.
Yakubu et al. (2019)	Kogi State, Nigeria	Infrastructure, finance	Survey	Unreliable power supply and finance are major barriers.
Zakari et al. (2022)	Nigeria	Policy, infrastructure	Case study	Policy gaps limit renewable energy adoption in SMEs.

3.0 Socio-Economic and Environmental Dynamics

Small and Medium Enterprises (SMEs) are vital to Nigeria's economy, contributing significantly to employment, innovation, and economic growth. In Kogi State, located in Nigeria's North Central region, SMEs face unique socio-economic and environmental challenges that influence their adoption of sustainability practices. These practices, encompassing economic viability, social responsibility, and environmental stewardship, are critical for long-term business survival and regional development. This response examines the socio-economic and environmental dynamics shaping SME sustainability practices in Kogi State, drawing on recent studies and contextual factors. It integrates theoretical frameworks, empirical findings, and policy implications, supported by tables and figures where applicable.

3.1 Socio-Economic Dynamics

SMEs in Kogi State operate in a complex socio-economic environment characterized by opportunities and constraints. The following factors influence their sustainability practices:

3.1.1 Economic Factors

Limited access to affordable credit is a major barrier to SME sustainability. High interest rates and inadequate financial support hinder investments in sustainable technologies and practices (Saibu & Bello, 2019). For instance, a study in Kogi State found that debt leveraging positively impacts profitability when managed effectively, but financial constraints often limit such strategies (Yakubu et al., 2019); Fierce competition necessitates innovation to maintain competitive advantage. SMEs adopting market and process innovations, rather than product innovations, show improved performance and sustainability in Kogi State (Nafiu et al., 2020). However, the high cost of production and limited market access restrict the adoption of sustainable practices; Government interventions, such as

survival funds and free business registration, positively affect SME performance. A 2024 study in Kogi State highlighted that government sustainable programs significantly enhance dynasty business performance through structured continuity plans (ResearchGate, 2024).

3.1.2 Social Factors

The personal characteristics of SME owners, such as knowledge, creativity, and determination, are critical determinants of sustainability. Studies indicate that inadequate experience and lack of focus negatively impact SME growth in Nigeria. Training programs and knowledge-sharing initiatives are essential for fostering sustainable practices; Social and cultural contexts influence SME engagement with sustainability. In Kogi State, community expectations and stakeholder pressures drive SMEs to adopt corporate social responsibility (CSR) practices, though these are often limited by resource constraints; SMEs are significant employers in Kogi State, contributing to poverty alleviation and social stability. However, their sustainability is challenged by high failure rates, with only 42.2% of SMEs surviving beyond five years in similar Nigerian contexts (Saibu & Bello, 2019).

3.1.3 Policy and Institutional Environment

Inconsistent regulations and lack of supportive policies hinder SME sustainability. For example, inadequate infrastructure, such as unreliable power supply, affects operational efficiency in Kogi State (Yakubu et al., 2019).

Policies promoting sustainability, such as tax incentives and subsidies for green technologies, are critical but often underutilized in Kogi State due to bureaucratic inefficiencies.

Table 3: Socio-Economic Determinants of SME Sustainability in Kogi State

Determinant	Impact on Sustainability	Challenges	Opportunities
Access to Finance	Enables investment in sustainable technologies	High interest rates, limited credit access	Government-backed loans, microfinance
Market Competition	Drives innovation for sustainability	High production costs, limited market access	Market innovation, niche product development
Entrepreneurial Skills	Enhances decision-making for sustainability	Inadequate experience, lack of training	Training programs, knowledge-sharing platforms
Government Support	Facilitates sustainable practices	Bureaucratic inefficiencies	Survival funds, free registration programs
Cultural Norms	Encourages CSR adoption	Resource constraints	Community engagement, stakeholder collaboration

3.2 Environmental Dynamics

Nigeria's environmental performance, ranked 140 out of 180 countries with a score of 37.9% (EPI, 2024), underscores the urgency for SMEs to adopt sustainable practices. In Kogi State, environmental dynamics significantly influence SME operations:

3.2.1 Environmental Challenges

Kogi State, like much of Nigeria, faces challenges with waste management and resource efficiency. SMEs struggle to implement circular economy practices, such as waste minimization and recycling, due to limited infrastructure and awareness.

The state's proximity to industrial activities, including mining and agriculture, contributes to environmental degradation. SMEs in manufacturing sectors face pressure to reduce their carbon footprint and mitigate pollution.

Erratic weather patterns and flooding, common in Kogi State due to its confluence of the Niger and Benue rivers, disrupt SME supply chains and operations, necessitating resilient and sustainable practices.

3.2.2 Sustainability Practices

SMEs adopting circular practices, such as using recyclable materials and optimizing resource use, show improved sustainability. A study in Lagos, applicable to Kogi due to similar urban challenges, emphasized the need for SMEs to develop closed-loop supply chains .

Eco-innovation, such as energy-efficient technologies, is limited by financial and technical barriers. However, proactive local authority support can trigger such innovations (Klewitz et al., 2012).

SMEs with higher environmental awareness are more likely to adopt sustainability practices. In Angola, a comparable African context, CSR diffusion was linked to information access and environmental consciousness.

3.2.3 External Support

Stakeholders, including customers and regulatory bodies, pressure SMEs to adopt green practices. However, lack of customer support and inadequate regulatory frameworks hinder progress (Majumdar & Sinha, 2018).

Technologies like blockchain and ICT can enhance sustainability by improving supply chain transparency and efficiency. However, adoption is low in Kogi State due to financial constraints and inadequate infrastructure.

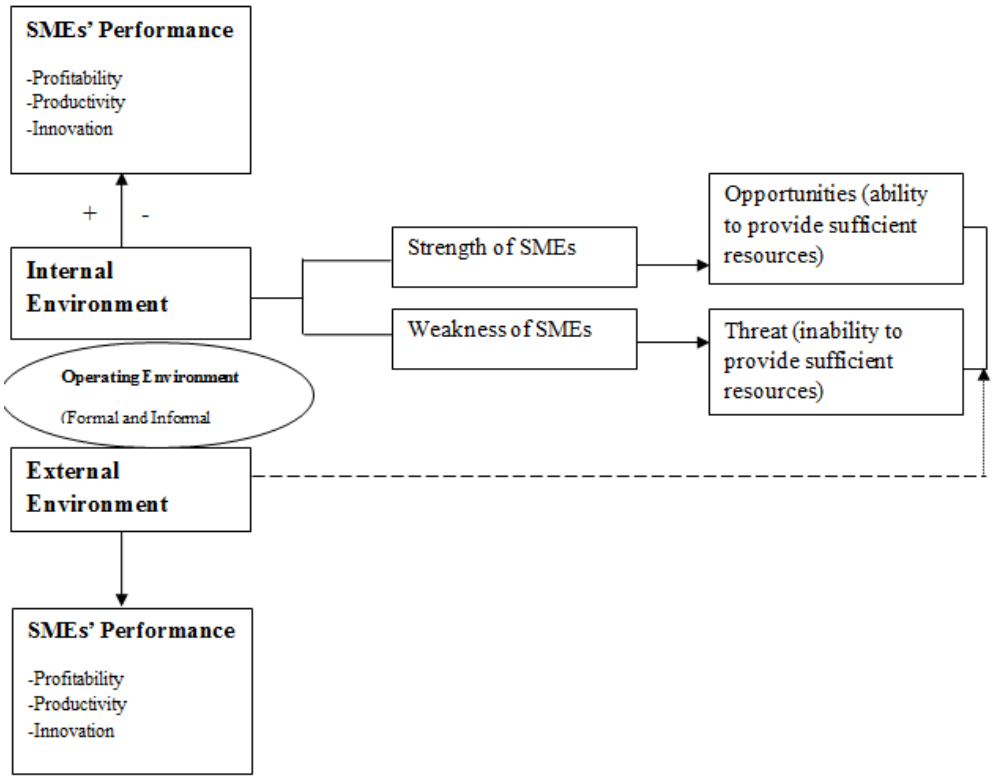


Figure 1: The Business Environment of Kogi State

Source: Adopted from Chang *et al.* (2011); Rochaa (2012); Adeoye (2012); Obasan (2014); Essien (2014); Dut (2015).

The Figure 1 shows the nature of the Kogi State business environment. It shows that internal environment is connected with Manufacturing SMEs' strength and weakness; and the external environment shows opportunities and threat. The ability of SME owner to possess sufficient resources is an indication of strength. Meanwhile, the utilization of such resources is backed up with SME's core competence (which has to do with the conversion of the resources in a distinct manner). Where this utilization capacity is evident, the external environment is said to have posed the SME with opportunities. On the other hand, weakness of Manufacturing SMEs is an indication that available resources are not sufficient enough to utilize opportunities posed by the external environment. Logically, it is reasonable enough to uphold that the weakness of one SME is projected by the strength of another. Thus, the ability of one SME to provide sufficient resources and utilize them causes threat to the other weak Manufacturing SMEs.

4.0 Conclusion

The sustainability of SMEs in Kogi State is shaped by a complex interplay of socio-economic and environmental dynamics. Economic constraints, such as limited finance and high competition, social factors like entrepreneurial skills, and environmental challenges like pollution and resource scarcity are critical determinants. By leveraging government support, stakeholder collaboration, and technology adoption, SMEs can enhance their sustainability practices, contributing to economic growth and environmental stewardship in Kogi State.

The review highlights that SME sustainability practices are shaped by a complex interplay of internal and external determinants. Internal factors, such as managerial skills and financial resources, and external factors, like government policies and infrastructure, play critical roles

in driving or hindering sustainability adoption. In Nigeria, and specifically in Kogi State, these challenges are exacerbated by contextual factors such as unreliable power supply and limited policy support. The RBV and Stakeholder Theory provide a robust framework for understanding these dynamics, but region-specific studies remain scarce. This study fills this gap by focusing on Kogi State, offering insights into the determinants of SME sustainability practices and informing targeted interventions for policymakers and SME owners.

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