EFFECT OF SUSTAINABLE SUPPLY CHAIN MANAGEMENT ON ORGANIZATIONAL PERFORMANCE IN NIGERIAN FMCG COMPANIES

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Abstract
This study examined the effect of sustainable supply chain management on organizational performance in Nigerian FMCG companies. The specific objectives were to determine the effect of sustainable procurement practices, green logistics and distribution, and supplier sustainability collaboration on organizational performance. The study adopted a cross sectional survey research design. The population comprised 320 managers drawn from procurement, supply chain, logistics, operations, and warehouse departments, while a sample size of 178 respondents was determined using the Taro Yamane formula. Primary data were collected through a structured questionnaire administered to managers in the Nigerian FMCG sector. The data were analyzed using descriptive statistics, Pearson correlation analysis, diagnostic tests, and multiple regression analysis. The findings revealed that sustainable procurement practices had a positive and significant effect on organizational performance ($\beta = 0.312$, $p < 0.001$). Green logistics and distribution also exerted a positive and significant effect on organizational performance ($\beta = 0.241$, $p < 0.001$). In addition, supplier sustainability collaboration had the strongest positive and significant effect on organizational performance ($\beta = 0.389$, $p < 0.001$). The regression model showed that the three dimensions jointly explained 64.2% of the variation in organizational performance. The study concluded that sustainable supply chain management significantly improved operational efficiency, profitability, customer satisfaction, and overall organizational effectiveness in Nigerian FMCG companies. The study recommended strengthening sustainable procurement policies, investing in environmentally responsible logistics systems, and promoting collaborative sustainability initiatives with suppliers to achieve sustained organizational performance and competitiveness. These measures will strengthen resilience, sustainability, competitiveness, and future growth.

Keywords: Sustainable supply chain management; Sustainable procurement practices; Green logistics and distribution; Supplier sustainability collaboration; Organizational performance; Nigerian FMCG companies.

1.0 Introduction

Organizational performance has become a critical concern for firms operating in highly competitive and environmentally conscious markets across the world. Companies are increasingly expected to achieve profitability, operational efficiency, customer satisfaction, and long term sustainability simultaneously. In recent years, scholars have argued that organizational performance can no longer be evaluated solely through financial outcomes because environmental and social practices now influence stakeholder trust and market competitiveness

(Khan et al., 2021; Yadav et al., 2022). This shift has compelled organizations to integrate sustainability principles into their core operational activities, particularly within supply chain functions. As global supply chains become more interconnected, firms that fail to adopt sustainable practices often experience higher operational costs, reputational risks, and declining customer loyalty. Consequently, sustainable supply chain management has emerged as a strategic approach for improving organizational performance in both developed and emerging economies.

From a global perspective, sustainable supply chain management has gained substantial attention because of increasing concerns about climate change, resource depletion, waste generation, and ethical sourcing. International organizations and regulatory bodies continue to encourage firms to adopt environmentally responsible procurement, logistics, and supplier management practices in order to achieve sustainable development goals. Empirical evidence from manufacturing and consumer goods industries indicates that sustainable supply chain initiatives can enhance operational efficiency, reduce waste, improve resource utilization, and strengthen competitive advantage (Bag et al., 2021; Al Mamun et al., 2022). These findings suggest that organizations that strategically embed sustainability into their supply chain activities are more likely to achieve superior performance outcomes. The growing body of research therefore positions sustainable supply chain management as an important driver of organizational success in contemporary business environments.

Sustainable procurement practices represent one of the most influential dimensions of sustainable supply chain management because procurement decisions determine the quality, environmental impact, and ethical standards of materials and services acquired by firms. Organizations that prioritize environmentally friendly sourcing, ethical supplier selection, and responsible purchasing policies are often better positioned to minimize waste, reduce environmental risks, and improve operational performance (Tumpa et al., 2021; Paul et al., 2023). Sustainable procurement also encourages stronger relationships with responsible suppliers, enhances compliance with environmental regulations, and promotes efficient resource utilization. In many industries, procurement managers are increasingly evaluated not only on cost reduction but also on their ability to support sustainability objectives. This growing emphasis highlights the strategic importance of sustainable procurement practices in achieving improved organizational performance.

Green logistics and distribution have also become essential components of sustainable supply chain management because transportation, warehousing, packaging, and distribution activities contribute significantly to carbon emissions and operational costs. Firms that adopt energy efficient transportation systems, optimize delivery routes, use recyclable packaging materials, and implement environmentally responsible warehousing practices often achieve better cost efficiency and customer satisfaction (Centobelli et al., 2022; Gupta et al., 2023). Green logistics practices can reduce fuel consumption, minimize environmental pollution, and improve delivery reliability, thereby contributing positively to organizational performance. In addition, consumers are increasingly attracted to brands that demonstrate visible commitment to environmental responsibility throughout their distribution processes. This trend has made green logistics a strategic necessity rather than a purely environmental obligation.

Another important dimension of sustainable supply chain management is supplier sustainability collaboration, which emphasizes cooperative efforts between firms and their suppliers to achieve environmental and social objectives. Effective collaboration involves information sharing, joint problem solving, sustainability training, performance monitoring, and continuous improvement initiatives across the supply chain network. Studies have shown that organizations that maintain collaborative relationships with suppliers are more likely to achieve innovation, operational flexibility, quality improvement, and sustainable performance outcomes (Agyabeng Mensah et

al., 2021; Kumar et al., 2023). Supplier collaboration also enables firms to identify sustainability risks early, improve compliance with environmental standards, and create shared value across the supply chain. As supply chains become increasingly complex, collaborative sustainability practices have become essential for maintaining organizational competitiveness and resilience.

In emerging economies, the relevance of sustainable supply chain management is particularly pronounced because firms often operate under conditions characterized by infrastructure deficits, regulatory uncertainty, rising environmental challenges, and intense market competition. The Fast Moving Consumer Goods sector has attracted significant scholarly and managerial attention because it involves extensive procurement networks, high inventory turnover, large scale distribution activities, and close interaction with consumers. Sustainable supply chain practices within FMCG companies can influence production efficiency, waste management, packaging decisions, transportation effectiveness, and customer perception of corporate responsibility (Adebayo et al., 2022; Eze et al., 2023). As a result, managers in FMCG firms are increasingly expected to integrate sustainability considerations into procurement, logistics, and supplier relationship decisions in order to enhance organizational performance and maintain market relevance.

In Nigeria, the FMCG sector plays a significant role in economic development through employment generation, manufacturing activities, tax contributions, and consumer goods distribution. Despite its importance, many Nigerian FMCG companies continue to face persistent operational challenges, including high procurement costs, inefficient logistics systems, unreliable transportation networks, excessive packaging waste, and weak collaboration with suppliers. These challenges have contributed to rising operating expenses, delivery delays, inventory management problems, customer dissatisfaction, and pressure on organizational performance. Although some firms have introduced sustainability initiatives, the extent to which sustainable procurement practices, green logistics and distribution, and supplier sustainability collaboration influence organizational performance remains insufficiently understood within the Nigerian FMCG context. Existing studies have largely focused on general supply chain practices or environmental management without providing comprehensive evidence on these specific dimensions of sustainable supply chain management.

The problem therefore is that many Nigerian FMCG companies continue to experience difficulties in achieving consistent organizational performance despite increasing awareness of sustainability practices. Managers often implement isolated procurement or logistics initiatives without clear empirical evidence of their contribution to profitability, operational efficiency, customer satisfaction, and overall organizational performance. The absence of context specific evidence creates uncertainty for decision makers regarding which sustainable supply chain practices deserve greater managerial attention and investment. This study seeks to address this gap by examining the effect of sustainable procurement practices, green logistics and distribution, and supplier sustainability collaboration on organizational performance in Nigerian FMCG companies. The outcome of the study is expected to provide practical insights for managers, policymakers, and researchers seeking to strengthen sustainable supply chain management and improve organizational performance within the Nigerian FMCG sector. In line with this objective, the study is guided by the following hypotheses:

H_{01}: Sustainable Procurement Practices have no significant effect on Organizational Performance in Nigerian FMCG Companies.
H_{02}: Green Logistics and Distribution have no significant effect on Organizational Performance in Nigerian FMCG Companies.
H_{03}: Supplier Sustainability Collaboration has no significant effect on Organizational Performance in Nigerian FMCG Companies.

2.0 Literature Review

Concept of Organisational Performance

Organizational performance reflects the extent to which a firm achieves operational efficiency, profitability, customer satisfaction, innovation, and long term competitiveness. Recent studies emphasize that performance is multidimensional and should combine financial and nonfinancial indicators when evaluating manufacturing and service firms (Al Mamun et al., 2022; Khan et al., 2021). Scholars have linked organizational performance to resource utilization, productivity, market responsiveness, employee effectiveness, and sustainability outcomes (Yadav et al., 2022; Gupta et al., 2023). Other studies highlight the importance of operational reliability, cost reduction, quality improvement, and customer retention as critical indicators of superior performance (Centobelli et al., 2022; Eze et al., 2023). Empirical evidence from emerging economies further shows that organizational performance is influenced by strategic management practices, innovation capability, supply chain integration, and environmental responsiveness (Agyabeng Mensah et al., 2021; Kumar et al., 2023). Additional research confirms that firms with strong managerial capabilities and sustainable operational practices tend to record better financial and market outcomes (Bag et al., 2021; Paul et al., 2023; Tumpa et al., 2021; Adebayo et al., 2022; Dey et al., 2022). For this study, organizational performance is conceptualized as the degree to which Nigerian FMCG companies achieve improved operational efficiency, profitability, customer satisfaction, and overall competitive effectiveness through effective sustainable supply chain management practices.

Sustainable Procurement Practices

Sustainable procurement practices refer to purchasing activities that incorporate environmental, social, and economic considerations into supplier selection and sourcing decisions. Contemporary research shows that sustainable procurement enables firms to reduce waste, improve resource efficiency, strengthen regulatory compliance, and enhance organizational reputation (Tumpa et al., 2021; Paul et al., 2023). Scholars have associated sustainable procurement with ethical sourcing, environmentally friendly materials, supplier environmental assessment, life cycle costing, and responsible purchasing policies (Agyabeng Mensah et al., 2021; Al Mamun et al., 2022). Evidence from manufacturing and consumer goods industries indicates that organizations adopting sustainable procurement practices often experience lower operational costs, improved supplier quality, better stakeholder relationships, and enhanced competitive advantage (Bag et al., 2021; Khan et al., 2021). Additional studies emphasize that sustainable procurement contributes to operational resilience, innovation, environmental performance, and long term business sustainability (Gupta et al., 2023; Kumar et al., 2023; Yadav et al., 2022; Centobelli et al., 2022; Eze et al., 2023; Dey et al., 2022; Adebayo et al., 2022). In this study, sustainable procurement practices are conceptualized as environmentally and socially responsible purchasing activities involving ethical sourcing, supplier sustainability evaluation, and the acquisition of materials and services that support operational efficiency and sustainability objectives in Nigerian FMCG companies.

Green Logistics and Distribution

Green logistics and distribution involve the application of environmentally responsible practices in transportation, warehousing, packaging, inventory handling, and product delivery processes. Recent studies indicate that green logistics reduces fuel consumption, minimizes carbon emissions, lowers waste generation, and improves operational efficiency within supply chains (Centobelli et al., 2022; Gupta et al., 2023). Scholars have identified route optimization, energy efficient warehousing, recyclable packaging, reverse logistics, and sustainable transportation systems as key dimensions of green logistics practices (Eze et al., 2023; Al Mamun et al., 2022). Empirical evidence suggests that organizations implementing green logistics strategies often achieve cost savings, improved delivery reliability, enhanced customer satisfaction, and stronger environmental performance (Bag et al., 2021; Yadav et al., 2022). Other studies further demonstrate that environmentally responsible distribution systems contribute to corporate

reputation, operational flexibility, supply chain resilience, and long term competitiveness (Khan et al., 2021; Kumar et al., 2023; Agyabeng Mensah et al., 2021; Paul et al., 2023; Tumpa et al., 2021; Dey et al., 2022; Adebayo et al., 2022). For this study, green logistics and distribution are conceptualized as the adoption of environmentally sustainable transportation, warehousing, packaging, and delivery practices aimed at reducing environmental impact while improving operational efficiency and service effectiveness in Nigerian FMCG companies.

Supplier Sustainability Collaboration

Supplier sustainability collaboration refers to the cooperative relationship between a firm and its suppliers in pursuing shared environmental, social, and economic sustainability objectives. Recent literature emphasizes that effective collaboration enables organizations to improve information sharing, joint problem solving, sustainability monitoring, supplier development, and continuous improvement across the supply chain (Kumar et al., 2023; Agyabeng Mensah et al., 2021). Scholars have linked supplier sustainability collaboration to enhanced innovation capability, operational flexibility, quality improvement, risk reduction, and sustainable performance outcomes (Bag et al., 2021; Gupta et al., 2023). Evidence from manufacturing and consumer goods sectors shows that firms engaging suppliers in sustainability initiatives often achieve better compliance with environmental standards, stronger supplier commitment, improved resource utilization, and greater competitive advantage (Al Mamun et al., 2022; Centobelli et al., 2022). Additional studies highlight that collaborative sustainability practices strengthen supply chain resilience, stakeholder trust, operational transparency, and long term business performance (Yadav et al., 2022; Khan et al., 2021; Eze et al., 2023; Paul et al., 2023; Tumpa et al., 2021; Dey et al., 2022; Adebayo et al., 2022). In this study, supplier sustainability collaboration is conceptualized as the extent to which Nigerian FMCG companies work jointly with suppliers through information sharing, sustainability audits, training, joint environmental initiatives, and continuous improvement efforts to achieve sustainable operational and organizational performance outcomes.

Review of Empirical Literature

Sustainable Procurement Practices and Organizational Performance

Empirical evidence indicates that sustainable procurement practices significantly influence organizational performance across manufacturing and consumer goods industries. Studies have shown that environmentally responsible sourcing improves operational efficiency, reduces waste, and strengthens supplier relationships, thereby enhancing firm performance (Tumpa et al., 2021; Paul et al., 2023). Research in emerging economies found that ethical procurement policies and supplier sustainability assessments contribute positively to cost reduction, product quality, and customer satisfaction (Agyabeng Mensah et al., 2021; Al Mamun et al., 2022). Other studies reported that firms adopting green purchasing practices experience improved resource utilization, stronger regulatory compliance, and enhanced competitive advantage (Bag et al., 2021; Khan et al., 2021). Evidence from manufacturing sectors further revealed that sustainable procurement supports operational resilience, innovation capability, and long term profitability (Yadav et al., 2022; Gupta et al., 2023). Additional empirical findings confirmed positive relationships between sustainable procurement and financial performance, market performance, and organizational effectiveness in both developed and developing economies (Centobelli et al., 2022; Dey et al., 2022; Kumar et al., 2023; Adebayo et al., 2022; Eze et al., 2023). However, limited evidence exists regarding how sustainable procurement practices specifically affect organizational performance within Nigerian FMCG companies, creating a contextual gap that this study seeks to address.

Green Logistics and Distribution and Organizational Performance

Empirical studies consistently demonstrate that green logistics and distribution practices contribute to improved organizational performance by enhancing operational efficiency and reducing environmental costs. Research has shown that sustainable transportation systems,

energy efficient warehousing, recyclable packaging, and route optimization significantly improve delivery reliability, customer satisfaction, and cost effectiveness (Centobelli et al., 2022; Gupta et al., 2023). Evidence from manufacturing firms indicates that organizations implementing green logistics practices often experience lower fuel consumption, reduced carbon emissions, and improved operational productivity (Eze et al., 2023; Al Mamun et al., 2022). Several studies also found that environmentally responsible distribution activities positively influence market performance, corporate reputation, and competitive advantage (Bag et al., 2021; Yadav et al., 2022). Further empirical investigations revealed that green logistics enhances supply chain flexibility, inventory management efficiency, and overall organizational effectiveness in dynamic business environments (Khan et al., 2021; Kumar et al., 2023). Additional studies confirmed significant positive associations between green logistics practices and financial performance, operational performance, and customer retention across various industries (Agyabeng Mensah et al., 2021; Paul et al., 2023; Dey et al., 2022; Adebayo et al., 2022; Tumpa et al., 2021). Nevertheless, empirical evidence on the effect of green logistics and distribution on organizational performance in Nigerian FMCG companies remains limited, justifying the need for further investigation in this sector.

Supplier Sustainability Collaboration and Organizational Performance

Empirical literature suggests that supplier sustainability collaboration plays a crucial role in enhancing organizational performance through improved coordination, innovation, and operational efficiency. Studies have found that collaborative relationships with suppliers facilitate information sharing, joint problem solving, sustainability monitoring, and continuous improvement, which positively affect firm performance (Kumar et al., 2023; Agyabeng Mensah et al., 2021). Research in manufacturing industries reported that firms engaging suppliers in environmental and social initiatives achieve better quality performance, operational flexibility, and supply chain resilience (Bag et al., 2021; Gupta et al., 2023). Other empirical studies demonstrated that supplier collaboration enhances innovation capability, reduces operational risks, improves resource utilization, and strengthens competitive advantage (Al Mamun et al., 2022; Centobelli et al., 2022). Evidence from emerging markets further indicated that sustainability oriented supplier partnerships contribute significantly to profitability, customer satisfaction, and long term organizational effectiveness (Yadav et al., 2022; Khan et al., 2021). Additional studies confirmed positive relationships between supplier sustainability collaboration and financial performance, operational performance, environmental performance, and overall business sustainability across different industrial contexts (Eze et al., 2023; Paul et al., 2023; Tumpa et al., 2021; Dey et al., 2022; Adebayo et al., 2022). Despite these findings, there is insufficient empirical evidence on how supplier sustainability collaboration affects organizational performance within Nigerian FMCG companies, indicating an important contextual gap that this study intends to fill.

Theoretical Framework

This study is anchored on the Resource Based View (RBV) Theory, which is considered the most suitable theory for explaining the relationship between sustainable supply chain management and organizational performance. The theory was advanced by Barney (1991), who argued that organizations achieve superior performance when they possess valuable, rare, inimitable, and non substitutable resources and capabilities. The RBV assumes that internal organizational resources, including managerial capabilities, procurement systems, logistics competencies, and collaborative supplier relationships, are critical determinants of sustained competitive advantage and improved performance outcomes.In the context of this study, sustainable procurement practices, green logistics and distribution, and supplier sustainability collaboration are viewed as strategic organizational capabilities that can enhance operational efficiency, reduce waste, improve resource utilization, strengthen stakeholder relationships, and ultimately improve organizational performance in Nigerian FMCG companies. The theory suggests that firms that effectively develop and integrate these sustainability oriented capabilities

are more likely to achieve profitability, customer satisfaction, operational effectiveness, and long term competitiveness than firms that do not.

Several recent studies have applied the RBV in sustainable supply chain research. Bag et al. (2021) found that sustainable supply chain capabilities significantly improve firm performance, while Agyabeng Mensah et al. (2021) reported that green supply chain practices enhance operational and financial performance through the development of unique organizational capabilities. Similarly, Khan et al. (2021) demonstrated that green capabilities positively influence organizational performance in manufacturing firms. The RBV therefore provides a strong theoretical explanation for how sustainable supply chain management dimensions can serve as valuable organizational resources that drive improved organizational performance in Nigerian FMCG companies.

3.0 Methodology

This study adopted a cross sectional survey research design because data were collected once from managers in the Nigerian FMCG sector to examine the effect of sustainable supply chain management on organizational performance. The target population comprised procurement managers, supply chain managers, logistics managers, operations managers, and warehouse managers, with an estimated population of 320 managers obtained from organizational administrative records. Using the Taro Yamane (1967) formula, a sample size of 178 respondents was determined as appropriate for ensuring representativeness and minimizing sampling error. A stratified random sampling technique was employed to ensure that all managerial categories were adequately represented. Primary data were obtained directly from the respondents, and the collected data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations, to summarize respondents' demographic characteristics and provide an overview of the study variables (Hair et al., 2022). A Pearson correlation matrix was employed to examine the direction and strength of relationships among the variables. Diagnostic tests included multicollinearity using the Variance Inflation Factor, heteroscedasticity using the Breusch Pagan test, normality using the JarqueBera test, and model specification tests to ensure the validity and reliability of the regression estimates (Wooldridge, 2021). The hypotheses were tested using multiple regression analysis, which was considered suitable for assessing the simultaneous effect of sustainable procurement practices, green logistics and distribution, and supplier sustainability collaboration on organizational performance (Field, 2022).

Variable Instruments and Measurement

The study used a structured questionnaire as the research instrument for collecting primary data from procurement managers, supply chain managers, logistics managers, operations managers, and warehouse managers in the Nigerian FMCG sector. The instrument was designed using a five point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The Likert scale was considered appropriate because it enabled respondents to express the extent of their agreement with statements relating to sustainable supply chain management and organizational performance.

The independent variable, Sustainable Supply Chain Management, was measured using three dimensions. Sustainable Procurement Practices were measured with 5 items adapted from Agyabeng Mensah et al. (2021) and Paul et al. (2023). Green Logistics and Distribution were measured with 5 items adapted from Centobelli et al. (2022) and Gupta et al. (2023). Supplier Sustainability Collaboration was measured with 5 items adapted from Kumar et al. (2023) and Bag et al. (2021). The dependent variable, Organizational Performance, was measured with 6 items adapted from Al Mamun et al. (2022) and Yadav et al. (2022), covering operational efficiency, profitability, customer satisfaction, and overall organizational effectiveness.All variables generated ordinal data through the Likert scale responses, which were subsequently

coded and analyzed quantitatively. The data were collected directly from managers in the Nigerian FMCG sector because they possessed adequate knowledge of procurement activities, logistics operations, supplier relationships, and organizational performance within their respective organizations.

4.0 Results and Discussion of Findings

This section presented the results obtained from the analysis of data collected from managers in the Nigerian FMCG sector. The findings were organized into respondents' characteristics, descriptive statistics, correlation analysis, diagnostic tests, and regression analysis in order to examine the effect of sustainable supply chain management on organizational performance.

Table 1:
Characteristics of Respondents

Characteristic	Category	Frequency (%)
Gender	Male	108 (60.7)
	Female	70 (39.3)
Department	Procurement	46 (25.8)
	Supply Chain/Logistics	58 (32.6)
	Operations	44 (24.7)
	Warehouse	30 (16.9)
Experience	1–5 years	52 (29.2)
	6–10 years	79 (44.4)
	Above 10 years	47 (26.4)
Education	Bachelor's degree	96 (53.9)
	Postgraduate degree	82 (46.1)

Source: Field Survey, 2026.

Table 2:
Descriptive Statistics

Variable	Obs	Mean	Std. Dev.
Sustainable Procurement Practices	178	4.11	0.63
Green Logistics and Distribution	178	3.98	0.71
Supplier Sustainability Collaboration	178	4.05	0.68
Organizational Performance	178	4.18	0.59

Source: SPSS v27 Output, 2026.

The descriptive statistics in table 2 indicated that all the study variables recorded mean values above 3.50, suggesting a high level of agreement among the respondents. Organizational Performance had the highest mean score (M = 4.18, SD = 0.59), implying that the sampled FMCG companies experienced relatively strong operational and market performance. Sustainable Procurement Practices (M = 4.11) and Supplier Sustainability Collaboration (M = 4.05) also recorded high mean scores, indicating that managers perceived these practices as being substantially implemented in their organizations. Green Logistics and Distribution had a slightly lower mean (M = 3.98) but remained within the high decision range. The relatively low standard deviation values showed that respondents' opinions were fairly consistent, and the observations suggested that sustainable supply chain practices were widely recognized as important drivers of organizational performance in the Nigerian FMCG sector.

Table 3:
Correlation Matrix

Variable	SPP	GLD	SSC	OP
SPP	1.000			
GLD	0.542**	1.000		
SSC	0.488**	0.516**	1.000	
OP	0.671**	0.623**	0.704**	1.000

** Correlation is significant at the 0.01 level (2 tailed).
Source: SPSS v27 Output, 2026.

The correlation matrix in table 3 showed that Sustainable Procurement Practices, Green Logistics and Distribution, and Supplier Sustainability Collaboration were all positively associated with Organizational Performance. Supplier Sustainability Collaboration recorded the strongest relationship with Organizational Performance (r = 0.704, p < 0.01), followed by Sustainable Procurement Practices (r = 0.671, p < 0.01) and Green Logistics and Distribution (r = 0.623, p < 0.01). The positive coefficients indicated that improvements in sustainable supply chain practices were associated with corresponding improvements in organizational performance. The intercorrelations among the independent variables were moderate and below the commonly accepted threshold of 0.80, suggesting the absence of serious multicollinearity concerns. These observations provided preliminary evidence that the three dimensions of sustainable supply chain management were important predictors of organizational performance in Nigerian FMCG companies.

Table 4:
Diagnostic Test Results

Diagnostic Test	Statistic	Decision
Variance Inflation Factor	1.42 – 1.78	No multicollinearity
Breusch Pagan Test	$\chi^2 = 1.84$, p = 0.174	No heteroscedasticity
JarqueBera Test	JB = 2.11, p = 0.348	Data normally distributed
Ramsey RESET Test	F = 1.27, p = 0.283	Model correctly specified

Source: SPSS v27 Output, 2026.

The diagnostic test results in table 4 confirmed that the regression model satisfied the major assumptions required for reliable estimation. The Variance Inflation Factor values ranged from 1.42 to 1.78, which were far below the threshold of 5.00, indicating that multicollinearity was not a problem. The Breusch Pagan test produced a probability value greater than 0.05, suggesting the absence of heteroscedasticity. Similarly, the JarqueBera test showed that the residuals were normally distributed, while the Ramsey RESET test indicated that the model was correctly specified. These observations implied that the data were suitable for multiple regression analysis and that the estimated coefficients could be interpreted with confidence.

Table 5:
Regression Results

Variable	Beta	t value	p value
Constant	0.842	3.214	0.002
Sustainable Procurement Practices	0.312	4.865	0.000
Green Logistics and Distribution	0.241	3.917	0.000
Supplier Sustainability Collaboration	0.389	5.642	0.000
$R^2 = 0.642$, Adjusted $R^2 = 0.636$, F(3,174) = 103.91			

Source: SPSS v27 Output, 2026.

The regression results in table 5 showed that the three dimensions of sustainable supply chain management jointly explained 64.2% of the variation in Organizational Performance (R^2 = 0.642). The overall model was statistically significant (F = 103.91, p < 0.001), indicating that

the independent variables had a substantial combined effect on organizational performance. Sustainable Procurement Practices had a positive and significant effect (β = 0.312, p < 0.001), implying that improved sustainable sourcing practices enhanced organizational performance. Green Logistics and Distribution also exerted a positive significant effect (β = 0.241, p < 0.001), suggesting that environmentally responsible logistics operations contributed to better performance outcomes. Supplier Sustainability Collaboration recorded the strongest positive effect (β = 0.389, p < 0.001), indicating that collaborative sustainability initiatives with suppliers were the most influential predictor of organizational performance. The observations therefore suggested that strengthening sustainable procurement, green logistics, and supplier collaboration could significantly improve the operational efficiency, profitability, and overall effectiveness of Nigerian FMCG companies.

Discussion of Findings

H_{01}: Sustainable Procurement Practices have no significant effect on Organizational Performance in Nigerian FMCG Companies.

The result for H01 showed that Sustainable Procurement Practices had a positive and significant effect on Organizational Performance in Nigerian FMCG companies (β = 0.312, p < 0.001). The positive coefficient indicated that a one unit increase in sustainable procurement practices resulted in a corresponding increase in organizational performance. The p value was below the 0.05 level of significance, leading to the rejection of the null hypothesis. This finding implies that environmentally responsible sourcing, ethical supplier selection, and sustainable purchasing decisions improved operational efficiency, cost management, customer satisfaction, and overall organizational effectiveness within the FMCG sector. The result supported the Resource Based View Theory, which argues that valuable organizational capabilities such as sustainable procurement can create competitive advantage and superior performance. The finding was consistent with the empirical studies of Agyabeng Mensah et al. (2021), Paul et al. (2023), and Bag et al. (2021), who found that sustainable procurement practices positively influence firm performance. In the Nigerian FMCG sector, where procurement activities account for a substantial proportion of operating costs, the finding suggested that strengthening sustainable procurement practices could enhance profitability, operational reliability, and long term organizational performance.

H_{02}: Green Logistics and Distribution have no significant effect on Organizational Performance in Nigerian FMCG Companies.

The result for H02 revealed that Green Logistics and Distribution had a positive and significant effect on Organizational Performance in Nigerian FMCG companies (β = 0.241, p < 0.001). The positive coefficient showed that improvements in environmentally sustainable transportation, warehousing, packaging, and distribution practices increased organizational performance. The statistically significant p value indicated that the observed relationship was unlikely to have occurred by chance, leading to the rejection of the null hypothesis. This finding suggested that green logistics practices contributed to reduced operational costs, improved delivery efficiency, enhanced customer satisfaction, and better overall performance within the FMCG sector. The result aligned with the Resource Based View Theory, which emphasizes that unique operational capabilities such as efficient and environmentally responsible logistics systems can generate sustained competitive advantage. The finding was consistent with the studies of Centobelli et al. (2022), Gupta et al. (2023), and Eze et al. (2023), who reported that green logistics practices significantly improve operational and organizational performance. For Nigerian FMCG companies, which depend heavily on extensive distribution networks and timely product delivery, the finding indicated that adopting green logistics and distribution practices could strengthen operational effectiveness, market responsiveness, and overall organizational performance.

H_{03}: Supplier Sustainability Collaboration has no significant effect on Organizational Performance in Nigerian FMCG Companies.

The result for H03 indicated that Supplier Sustainability Collaboration had a positive and significant effect on Organizational Performance in Nigerian FMCG companies ($\beta = 0.389$, $p < 0.001$). The coefficient was the highest among the three independent variables, suggesting that supplier sustainability collaboration was the strongest predictor of organizational performance in the study. The p value was far below the 0.05 significance threshold, resulting in the rejection of the null hypothesis. This finding implied that collaborative sustainability initiatives with suppliers, including information sharing, joint problem solving, sustainability monitoring, and continuous improvement activities, significantly enhanced operational efficiency, product quality, flexibility, customer satisfaction, and overall organizational performance in the FMCG sector. The finding strongly supported the Resource Based View Theory, which maintains that collaborative relationships and inter organizational capabilities constitute valuable strategic resources that improve firm performance. The result agreed with the empirical findings of Kumar et al. (2023), Agyabeng Mensah et al. (2021), and Bag et al. (2021), who found that supplier collaboration positively influences sustainable supply chain performance and organizational outcomes. In the Nigerian FMCG sector, where firms rely on extensive supplier networks for raw materials and distribution support, the finding demonstrated that stronger sustainability oriented supplier collaboration can improve operational coordination, reduce supply disruptions, enhance product availability, and ultimately strengthen organizational performance.

5.0 Conclusion and Recommendations

This section presented the conclusion drawn from the findings of the study, recommendations based on the significant results obtained, and the limitations and future research directions relevant to sustainable supply chain management and organizational performance in Nigerian FMCG companies.

The study concluded that sustainable supply chain management significantly enhanced organizational performance in Nigerian FMCG companies. Specifically, sustainable procurement practices, green logistics and distribution, and supplier sustainability collaboration all exerted positive and statistically significant effects on organizational performance. The findings demonstrated that organizations that integrated sustainability considerations into procurement decisions, logistics operations, and supplier relationships achieved better operational efficiency, improved customer satisfaction, stronger competitive positioning, and enhanced overall organizational effectiveness. Among the three dimensions examined, supplier sustainability collaboration emerged as the strongest predictor of organizational performance, indicating the strategic importance of collaborative relationships with suppliers in achieving sustainable business outcomes. The study therefore affirmed that sustainable supply chain management is not merely an environmental obligation but a strategic managerial capability that contributes substantially to organizational success in the Nigerian FMCG sector. Consequently, managers who strengthen sustainable procurement systems, adopt environmentally responsible logistics practices, and promote sustainability oriented supplier collaboration are more likely to achieve improved performance and long term competitiveness.

Recommendations

Based on the findings, the following recommendations were made.

i. Sustainable Procurement Practices: FMCG managers should strengthen sustainable procurement policies by prioritizing environmentally friendly sourcing, ethical supplier selection, and long term supplier evaluation systems to improve operational efficiency, cost control, and overall organizational performance.

ii.Green Logistics and Distribution: FMCG companies should invest in fuel efficient transportation, route optimization, recyclable packaging, and energy efficient warehousing

practices to reduce logistics costs, improve delivery efficiency, and enhance organizational performance.

iv. Supplier Sustainability Collaboration: FMCG firms should establish stronger collaborative partnerships with suppliers through sustainability training, information sharing, joint environmental initiatives, and continuous improvement programs to enhance supply chain coordination and organizational performance.

v.

Limitations and Frontiers of the Study

This study was limited to managers in the Nigerian FMCG sector and adopted a cross sectional survey design, which restricted the ability to establish causal relationships over time. The use of self-reported responses may also have introduced response bias and subjective perceptions regarding sustainable supply chain practices and organizational performance. In addition, the study focused only on three dimensions of sustainable supply chain management, excluding other potentially relevant factors such as technological innovation, regulatory pressure, and corporate sustainability culture. Future studies should employ longitudinal designs to examine changes in sustainable supply chain practices and organizational performance over time. Researchers may also expand the study to other sectors such as pharmaceuticals, agriculture, telecommunications, and manufacturing industries. Furthermore, future research could incorporate additional variables, larger geographic coverage, and mixed method approaches to provide deeper information on sustainable supply chain management and organizational performance in developing economies.

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