

## **EFFECT OF SUPPLY CHAIN MANAGEMENT PRACTICES ON THE PERFORMANCE OF DANGOTE CEMENT COMPANY OBAJANA, KOGI STATE.**

**Ali, Tenimu Usman**

<sup>1</sup>Department of Business Administration & Management  
Federal Polytechnic Nasarawa  
Nasarawa State – Nigeria  
**Email;** alitenimu@yahoo.com

**and**

**Issa Abdulraheem**

<sup>2</sup> Department of Business Administration  
Faculty of Management Sciences  
University of Abuja, Nigeria.  
**Email;** abdulraheemissa@gmail.com

<https://doi.org/10.70118/ajbam-01-2025-105>

---

### **ABSTRACT**

*Dangote Cement Manufacturing Company, Obajana, struggles to optimize its supply chain for cost and operational efficiency due to infrastructural deficits, market volatility, and unreliable supplier performance. This study explored the effect of supply chain management practices on the company's performance. The combination of descriptive and survey research designs was used and the main research instrument was structured questionnaire. Data were collected from employees of Dangote Cement Plc at Obajana, Using Taro Yamane formula, it took a sample of 412 employees from the population of 2,428 employees. Stratified and simple random sampling techniques were applied within each stratum, and a sample size of 347 was determined, with an additional 20% margin of safety. The data were analyzed using inferential statistics and regression analysis, with a 5% level of significance to test the hypotheses aligned with the study's objectives. The findings revealed that strategic suppliers' partnership and internal lean practices had significant positive effects on the performance of Dangote cement manufacturing company. More so, while these two factors contribute significantly to the performance of Dangote Cement Plc, internal lean practices showed the most pronounced impact, reinforcing the importance of continuous improvement and waste reduction strategies. The study concluded that supply chain management practices had positive effect on the performance of Dangote cement manufacturing company Obajana, despite the complexities and dynamism from business contexts. Based on the findings, the study recommends that Dangote Cement should enhance collaboration and communication with suppliers and distributors through joint planning and regular updates and adopt lean tools like value stream mapping, 5S, and Kaizen to boost efficiency.*

**Keywords:** Supply Chain management, Performance, inventory, Efficiency.

---

### **INTRODUCTION**

Supply Chain Management (SCM) is critical to enhancing organizational performance, particularly in the manufacturing sector, where efficiency and cost management are paramount.

Globally, SCM practices such as strategic supplier partnerships and internal lean practices have been recognized as pivotal for achieving cost efficiency and operational efficiency (Gunasekaran et al., 2022). Strategic supplier

partnerships foster long-term collaborations with suppliers to ensure timely delivery, reduced procurement costs, and improved resource management. Concurrently, internal lean practices focus on minimizing waste, optimizing processes, and improving productivity within organizations (Naslund & Williamson, 2020). These practices are widely acknowledged to contribute to competitive advantage by ensuring streamlined operations and cost savings.

Firms in Africa have shown transformative potential, particularly in the manufacturing and industrial sectors. Studies highlight that adopting robust SCM frameworks significantly enhances organizational resilience, operational efficiency, and cost management in African manufacturing firms (Adebanjo et al., 2021). However, the integration of such practices often faces challenges due to infrastructural constraints and market volatility. Despite these obstacles, leading firms such as Dangote Cement have demonstrated the potential of SCM practices to drive industrial growth and operational excellence across the continent (Obi et al., 2020).

In the Nigerian context, the manufacturing industry faces unique supply chain challenges, including inconsistent supplier performance, high logistics costs, and infrastructural deficits. Dangote Cement, Obajana, serves as a vital case study for understanding the impact of SCM practices on performance. As one of Africa's largest cement producers, Dangote Cement employs strategic supplier partnerships to ensure a reliable supply of raw materials, reducing costs and mitigating risks associated with supply chain disruptions (Aladejebi, 2022). Additionally, the company's adoption of internal lean practices has enabled it to enhance process efficiency, optimize resource utilization, and reduce waste, which are crucial for maintaining profitability in a competitive market (Oke et al., 2021).

The integration of strategic supplier partnerships and internal lean practices at Dangote Cement underscores the importance of SCM in achieving cost efficiency and operational performance. By leveraging these practices, the company not only enhances its competitive position within Nigeria but also sets a benchmark for SCM implementation in the broader African cement

industry. This study aims to explore the specific contributions of these SCM practices to organizational performance, providing insights for policymakers, businesses, and researchers.

Despite its status as one of Africa's largest cement manufacturers, Dangote Cement Manufacturing Company, Obajana, faces persistent challenges in optimizing its supply chain to achieve cost efficiency and operational efficiency. The company operates in a complex environment characterized by infrastructural deficits, market volatility, and inconsistent supplier performance, which increase operational costs and disrupt production processes. These challenges highlight the critical role of effective supply chain management practices in addressing inefficiencies.

While strategic supplier partnerships are essential for ensuring the timely delivery of raw materials and reducing procurement costs, gaps in supplier reliability and coordination have led to occasional supply disruptions, negatively impacting production schedules and cost management. Similarly, although the company has adopted internal lean practices to minimize waste and improve resource utilization, the lack of full implementation and alignment across departments has limited its ability to achieve optimal operational efficiency. These inefficiencies not only affect the company's profitability but also hinder its ability to sustain its competitive edge in a highly competitive industry.

The persistent nature of these challenges raises critical questions about the effectiveness and integration of supply chain management practices at Dangote Cement. This underscores the need for an empirical investigation to identify gaps in the implementation of strategic supplier partnerships and internal lean practices and assess their impact on the company's cost efficiency and operational performance. Addressing these issues is vital for enhancing Dangote Cement's resilience and competitiveness in both the Nigerian and African markets. The main objective of this study is to evaluate the effect of supply chain management practices on the performance of Dangote Cement Manufacturing Company Obajana. The specific objectives are to;

- i. examine the effect of strategic supplier partnerships on cost efficiency at Dangote Cement Manufacturing Company, Obajana.
- ii. analyze the impact of internal lean practices on the operational efficiency of Dangote Cement Manufacturing Company, Obajana.

## **LITERATURE REVIEW**

### **Concept of Supply Chain Management Practices**

Supply Chain Management (SCM) practices refer to a set of activities, strategies, and operational techniques adopted by organizations to effectively coordinate and integrate supply chain processes for improved performance and competitive advantage. These practices typically include strategic supplier partnerships, internal lean practices, postponement strategies, information sharing, and other activities that optimize the flow of materials, information, and finances across the supply chain (Amoako-Gyampah et al., 2021). SCM practices aim to enhance operational efficiency, minimize costs, and improve customer satisfaction by fostering collaboration and aligning supply chain objectives with organizational goals.

SCM practices are critical for achieving organizational success, especially in dynamic markets where adaptability and responsiveness are vital. According to Wong et al. (2020), effective SCM practices involve managing supplier relationships, reducing waste through lean methodologies, and leveraging technology for better data sharing and decision-making. Furthermore, these practices enable organizations to create seamless coordination among supply chain partners, enhancing resource utilization and service delivery (Kumar et al., 2023).

### **Strategic supplier partnership**

Strategic supplier partnership refers to a long-term, mutually beneficial collaboration between an organization and its key suppliers, aimed at achieving shared goals and improving supply chain performance. These partnerships go beyond

transactional relationships, focusing on joint planning, shared investments, and open communication to enhance trust and alignment of objectives (Liu et al., 2022). By fostering close relationships with suppliers, organizations can achieve cost savings, improved product quality, and better responsiveness to market demands.

Strategic supplier partnerships enable businesses to integrate their supply chain activities, streamline operations, and co-develop innovations that create competitive advantages (Amoako-Gyampah et al., 2021). For instance, by sharing demand forecasts and production schedules, companies can reduce lead times and minimize inventory holding costs. Additionally, such partnerships encourage suppliers to invest in advanced technologies and processes that align with organizational needs, further enhancing efficiency and effectiveness (Kumar et al., 2023).

### **Internal lean practices**

Internal lean practices involve the systematic implementation of lean principles and techniques within an organization to eliminate waste, improve operational efficiency, and enhance value creation. These practices focus on optimizing internal processes by reducing non-value-adding activities, improving workflow, and ensuring resource efficiency (Wong et al., 2020). Key lean methodologies such as just-in-time (JIT), kaizen (continuous improvement), and total quality management (TQM) are integral to internal lean practices.

Internal lean practices contribute to operational excellence by fostering a culture of continuous improvement, where employees are encouraged to identify inefficiencies and implement corrective actions (Kumar et al., 2023). In manufacturing settings like Dangote Cement, these practices help streamline production processes, reduce operational costs, and enhance product quality. By aligning lean initiatives with organizational goals, companies can respond more effectively to customer demands and achieve sustainable growth (Amoako-Gyampah et al., 2021).

### **Organizational performance**

Organizational performance refers to the ability of an organization to achieve its strategic goals and objectives efficiently and effectively, while meeting the expectations of stakeholders. It encompasses financial outcomes, operational efficiency, employee satisfaction, customer loyalty, and overall market competitiveness (Neely et al., 2021). Performance is typically evaluated through measurable indicators such as profitability, productivity, market share, customer satisfaction, and innovation (Aisha & Abdullahi, 2024; Lawal & Abdullahi, 2024).

In supply chain management, organizational performance reflects how well a company's supply chain practices, such as strategic supplier partnerships and internal lean practices, contribute to enhancing cost efficiency and operational efficiency. Effective management of resources, processes, and relationships within the supply chain significantly impacts an organization's ability to deliver value to customers and sustain competitive advantage (Elbaz et al., 2022).

### **Cost efficiency**

Cost efficiency refers to an organization's ability to minimize costs while maintaining a desired level of output or service quality. It involves the optimal allocation of resources to reduce operational expenses, eliminate waste, and achieve financial sustainability without compromising performance standards (Wong et al., 2021). In the context of supply chain management, cost efficiency is achieved by streamlining processes, improving supplier relationships, and leveraging technologies to reduce procurement, production, and distribution costs (Kumar et al., 2023).

Cost efficiency is particularly critical in competitive industries like cement manufacturing, where cost reduction can directly impact profitability and market positioning. Organizations that prioritize cost efficiency can achieve economies of scale, enhance profit margins, and offer competitive pricing, thereby ensuring long-term sustainability and customer satisfaction (Zhang et al., 2020).

### **Operational Efficiency**

Operational efficiency refers to an organization's ability to deliver goods or services in a cost-effective manner while optimizing resource utilization, production processes, and service delivery (Lawal & Abdullahi, 2024; Nnajofo et al., 2024). It reflects the organization's capacity to maximize output with minimal input, ensuring a balance between quality, speed, and cost (Liu et al., 2022). Operational efficiency in supply chain management involves adopting practices like just-in-time inventory, lean production, and process standardization to improve workflow, reduce bottlenecks, and enhance responsiveness to market demands (Amoako-Gyampah et al., 2021).

For manufacturing firms such as Dangote Cement, operational efficiency is vital for maintaining a competitive edge. By optimizing internal processes and supply chain operations, companies can increase productivity, reduce lead times, and enhance customer satisfaction. Improved operational efficiency also contributes to environmental sustainability by minimizing resource wastage and carbon footprints (Kumar et al., 2023).

### **Theoretical Framework**

#### **Transaction Cost Economics (TCE) Theory**

Transaction Cost Economics (TCE) Theory developed by developed by Oliver Williamson in 1979, is a foundational concept in both economics and supply chain management (SCM). The theory centers around the idea that firms manage their operations, including their supply chains, by seeking to minimize transaction costs. These costs are not just limited to the price of goods or services but encompass a broader range of expenses, including the costs associated with searching for suitable suppliers, negotiating contracts, monitoring and enforcing these contracts, and managing the overall relationship between the buyer and supplier.

Williamson's TCE theory asserts that firms will select governance structures—such as vertical integration, long-term partnerships, or market transactions—that best minimize these transaction costs. Vertical integration, where a

firm controls multiple stages of production or distribution within its supply chain, may be preferred if the costs of managing external suppliers are high. On the other hand, if these transaction costs are low, a firm might choose to outsource certain processes to external suppliers to benefit from their specialized capabilities and cost advantages.

The theory is particularly influential in explaining why firms might internalize certain operations within their supply chain while outsourcing others. For example, if a firm finds that the transaction costs associated with a critical supplier are high due to the complexity of the product, uncertainty, or the risk of opportunistic behavior by the supplier, it may decide to produce the component in-house. Conversely, if the market for a product or service is competitive and standardized, with low transaction costs, the firm might opt to outsource this activity to take advantage of the economies of scale and expertise that external suppliers offer.

However, while TCE provides valuable insights into the economic rationale behind supply chain decisions, it has been critiqued for its narrow focus on cost minimization. Critics argue that TCE overlooks other important factors that influence supply chain relationships, such as trust, long-term partnerships, and the strategic importance of collaboration and innovation. In real-world supply chains, decisions are often influenced by these non-economic factors, which can significantly affect the performance and sustainability of the supply chain. For instance, long-term relationships based on trust can reduce transaction costs over time and lead to better collaboration, innovation, and risk-sharing between firms and their suppliers.

### **Supply Chain Integration (SCI) Theory**

Supply Chain Integration (SCI) Theory, as proposed by Mentzer et al. (2001), emphasizes the seamless coordination of processes and information flows within and between firms to optimize supply chain performance. It highlights two key dimensions: internal integration, which fosters cross-functional collaboration within an organization, and external integration, which enhances coordination with suppliers and

customers. Internally, SCI helps break down silos by aligning procurement, production, logistics, and sales, leading to reduced lead times, lower inventory costs, and improved service levels. Technologies like Enterprise Resource Planning (ERP) systems facilitate integration by enabling real-time data sharing and decision-making, ultimately enhancing operational efficiency, demand forecasting, and resource allocation.

Externally, SCI promotes close collaboration with supply chain partners to improve agility and responsiveness to market changes, supply disruptions, and competitive pressures. Through shared information and coordinated efforts in procurement, distribution, and product development, firms can reduce inefficiencies, optimize inventory management, and ensure timely deliveries. However, achieving full integration is challenging due to differences in organizational cultures, goals, and IT systems, which can lead to conflicts and require substantial investment. Despite these challenges, SCI remains crucial for industries that rely on agility and real-time collaboration. Companies like Toyota in the automotive sector and Walmart in retail have successfully implemented SCI, streamlining supply chains, reducing costs, and enhancing customer satisfaction, demonstrating its effectiveness in driving business success.

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

The Resource-Based View (RBV) Theory, proposed by Jay Barney in 1991, is a foundational theory in strategic management that focuses on the internal resources and capabilities of a firm as the primary determinants of its competitive advantage. According to RBV, firms achieve superior performance by identifying, developing, and deploying resources that are valuable, rare, inimitable, and non-substitutable collectively referred to as VRIN attributes. These resources can include tangible assets like technology and facilities, as well as intangible assets like brand reputation, intellectual property, and organizational knowledge.

In the context of Supply Chain Management (SCM), RBV suggests that firms should focus on leveraging their internal resources to build unique capabilities that enhance their supply chain



operations. For example, a firm might develop advanced logistics systems or forge strong, strategic relationships with key suppliers, which can be considered valuable and rare resources. These capabilities, if difficult for competitors to replicate, can provide a sustainable competitive advantage. By focusing on these unique strengths, a firm can differentiate itself in the marketplace, optimize its supply chain efficiency, and respond more effectively to market demands.

RBV is particularly applicable in SCM because it emphasizes the strategic importance of developing core competencies within the supply chain. For instance, a company might invest in proprietary technology that enhances supply chain visibility, or it might cultivate a highly skilled supply chain management team. These resources, when managed effectively, can lead to improved operational efficiency, cost savings, and better customer service, all of which contribute to the firm's competitive positioning.

However, RBV has been critiqued for its inward-looking perspective. Critics argue that it underestimates the influence of external factors, such as market dynamics, regulatory changes, and competitive pressures, which can significantly impact a firm's supply chain strategies and overall performance. Additionally, while RBV highlights the importance of resources that are difficult to imitate, in rapidly changing industries, even the most inimitable resources can lose their value if they fail to adapt to external changes. Despite these critiques, RBV remains a powerful tool for understanding how firms can strategically manage their internal resources to gain and sustain competitive advantages in the supply chain context.

### **Empirical review**

Utami et.al., (2019) investigate the effect of Supply Chain Management Practices (SCMP) on Financial and Economic Sustainable Performance of Indonesian SMEs. For the achievement of the objective of study, researcher used quantitative research approach and questioner method was applied for the collection of data. To fulfil the objectives of this study, the data was collected from the managing directors, supply chain managers, planning managers, and

procurement managers. PLS-SEM approach was carried out by the study for the examination hypotheses. The results of study concluded that SCM Practices have significant and positive influence on Financial and Economic Sustainable Performance of Indonesian SMEs. Moreover, findings of this study indicated that effective application of SCMP could enhance the financial and economic performance of the SMEs in developing countries. Findings of the study highlighted that the relationship with customer, strategic supplier integration and level of information sharing is necessary for financial and economic sustainable performance of SMEs. This study contributes to Supply chain literature and offer new empirical evidence that supply chain management practices are significant for sustainable financial performance. However, this study used only three SCM practices (relationship with customer, strategic supplier integration and level of information sharing), the other important aspects of SCM practices such as SCM formulation, implementation and evaluation would be used in future research. A limitation of this study is its narrow focus and cross-sectional design does not account for the dynamic and evolving nature of supply chain practices and their long-term impact on financial and economic sustainability.

Salami et al., (2024) investigated the impact of supply chain management on the performance of Nile University of Nigeria, focusing on strategic supplier partnership as independent variable, and procurement success as a proxy for organizational performance. The population of the study comprises 996 Academic and Non-Academic staff members, with a sample size of 285 determined using Taro Yamane's formula. Primary data collection methods were employed, utilizing a 5-point Likert scale to gauge respondents' perceptions. Inferential statistical analyses were conducted to assess relationships. Results indicate a significant and positive association between strategic partnership and procurement success, as evidenced by significant  $p$ -values of 0.000. Based on these findings, recommendations are proposed for Nile University to enhance supply chain management practices. These include prioritizing strategic partnerships with key suppliers, strengthening

customer engagement through personalized communication and proactive problem-solving, implementing quality control measures to ensure order accuracy, and conducting a thorough assessment of information needs within the procurement process to optimize performance. By implementing these recommendations, Nile University can leverage supply chain management practices to improve procurement success and overall organizational performance. Future research could delve deeper into the dynamics of information sharing within supply chains to address the observed insignificance and further optimize supply chain strategies. The study's reliance on a single institution limits the generalizability of the findings to other organizations, particularly outside the educational sector and the study's focus on procurement success as a singular measure of organizational performance which does not capture the full scope of supply chain management's impact.

Chileshe & Phiri (2022) investigated the impact of supply chain management practices on performance of small and medium enterprises in developing countries with Agro-dealers in Zambia as case study. The target population were the SMEs especially Agro dealers in Lusaka. The study used questionnaires to collect data with a population of 243. Taro Yamane was used to get a sample size of 151. The SPSS software was used to analyze the data. Regression analysis was used to test the hypothesis and correlation was used for the relationship between variables. The study considered strategic supplier partnerships, customer relationship, level of information sharing and quality of information sharing as constructs of supply chain practices. The result from this study showed that application of supply chain management practices influences performance with special effect from competition advantage. The study has several limitations, focusing solely on Agro-dealers in Lusaka constrains the generalizability of the findings, as it may not reflect the experiences of SMEs in other regions or sectors within Zambia or other developing countries. Additionally, the emphasis on competitive advantage as a singular outcome measure may overlook other critical aspects of performance, such as resilience or adaptability,

that are particularly relevant for SMEs in developing economies.

Raval et al. (2020) conducted a case study to analyze the impact of Lean Six Sigma on organizational performance in Indian manufacturing organizations. Using a Data Envelopment Analysis (DEA) approach, the researchers evaluated the relative efficiency of 18 organizations. They found that while higher profit and inventory turnover ratio do not necessarily indicate efficient operations, organizations with a strong focus on Lean Six Sigma principles tend to have higher overall efficiency scores. The study was limited by its focus on Indian manufacturing organizations, and the generalizability of the findings to other industries or regions may be constrained.

Al-Doori (2020), in his study titled "The impact of lean practices on operational performance in the banking sector: an empirical investigation," conducted quantitative research using a correlational research design. The population for this study was all banking sector employees in Jordan, while a sample of 232 employees was selected using a convenience sampling technique. Data was collected through a structured questionnaire administered to the selected sample. Multiple regression analysis was employed to analyze the collected data. The findings revealed a positive and significant relationship between lean practices and operational performance in the banking sector. However, the study was limited by its reliance on self-reported data and the potential for common method bias.

### **Literature Gap**

Existing studies have extensively examined supply chain management (SCM) practices and their influence on organizational performance, particularly in advanced economies where SCM strategies are well-developed and integrated. However, there remains a significant knowledge gap in understanding how practices such as strategic supplier partnerships and internal lean practices impact specific performance metrics like cost efficiency and operational efficiency in the context of developing economies. In particular, the cement manufacturing sector in

Nigeria, exemplified by Dangote Cement Company in Obajana, has been underexplored despite its critical role in industrial development. Previous research often generalizes findings across industries, overlooking the unique operational challenges and market dynamics of the cement sector in Nigeria, thereby presenting a conceptual gap.

Methodologically, many existing studies rely on cross-sectional data, limiting their ability to capture the dynamic and long-term effects of SCM practices on organizational performance. Furthermore, there is a scarcity of empirical studies employing advanced statistical techniques to analyze the interplay between multiple SCM practices and organizational outcomes. This methodological limitation restricts the ability to draw robust and contextually relevant conclusions. In terms of data, most studies are either qualitative or rely on secondary data sources, creating a data gap that undermines the reliability and validity of findings. The lack of comprehensive primary data from industry players, particularly in the Nigerian cement industry, further highlights this limitation.

From a practical perspective, the existing body of research does not sufficiently address the application of SCM practices in environments characterized by infrastructural deficiencies, regulatory inconsistencies, and other contextual challenges prevalent in Nigeria. This practical gap underscores the need for research that provides actionable insights tailored to the operational realities of Dangote Cement Company and similar firms. Bridging these gaps is essential for advancing both academic understanding and practical implementation of SCM strategies in developing economies.

## **METHODOLOGY**

This study employed a descriptive survey research design to examine the effect of supply chain management practices on the performance of Dangote Cement Company, Obajana. The design is appropriate for capturing quantitative data, allowing for a comprehensive analysis of the relationships between variables. The population of the study is estimated at 2,671

employees of Dangote cement Obajana which includes management staff, supply chain managers, and operational employees at the Obajana plant, ensuring that the research focuses on individuals directly involved in implementing and experiencing supply chain practices. The study adopts a stratified random sampling technique to ensure representation across various strata of the workforce. The sample size was calculated using Taro Yamane's formula, resulting in an initial sample size of 378, which was adjusted to 454 to accommodate a 20% margin of safety for potential non-responses. Primary data was collected using a 5- point Likert scale structured questionnaires, divided into two sections: the first focused on demographic information, and the second addressed the effect of supply chain management practices on the performance of Dangote cement, Obajana.

Data analysis was conducted using both descriptive and inferential statistical techniques. Descriptive statistics, such as means and standard deviations, provide an overview of the data, while inferential methods, including regression analysis, are employed to examine the relationships between supply chain practices and performance metrics. The research instruments are validated through a pilot study and expert review to ensure they accurately measure the constructs of interest. Reliability is assessed using Cronbach's alpha, ensuring consistency in responses across items within the questionnaire. This robust methodology ensures that the findings are credible, contextually relevant, and contribute significantly to the body of knowledge on supply chain management in the Nigerian cement industry.

## **RESULTS AND FINDINGS**

This very research work is designed in order to get supply chain management on organizational performance of Dangote cement Plc, for the success and survival of this very research work the survey method was employed. The result presented in this Chapter are based on all test stated in chapter three. All results analyzed in this chapter are computed using SPSS version 27.0 statistical software packages.



**Table 1 Response Rate.**

Questionnaire Distributed	412
Returned Questionnaire	347
Percentage of returned Questionnaire	84%
Unreturned Questionnaire	65
Percentage of not returned Questionnaire	16%

**Source:** field Survey, (2025)

In distributing 412 questionnaires, 347 were returned, yielding a return rate of 84%. Conversely, 65 questionnaires were not returned, resulting in a 16% non-return rate. This data highlights a significant level of engagement with the survey, evidenced by the majority of recipients responding. However, there remains a portion of the sample who did not participate, suggesting potential areas for improvement in future survey distribution strategies or questionnaire design to increase response rates. Understanding the reasons behind non-

participation could provide valuable insights for enhancing engagement in subsequent surveys.

### Test of Hypotheses

However, to substantiate explicitly the analysis given so far above, the regression results or outputs obtained are presented thus below:

### Testing of hypothesis one

**H<sub>01</sub>:** There is no significant relationship between Strategic suppliers' partnerships and the cost efficiency of Dangote Cement Company Obajana.

**Table 2 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766 <sup>a</sup>	.587	.586	.33133

a. Predictors: (Constant), SSP

**Source:** SPSS Output Version 27.0.1

Table 2 presents the model summary for a regression analysis with Strategic Supplier Partnership (SSP) as the predictor. The R value of .766 indicates a strong positive correlation between SSP and the dependent variable. The R Square value of .587 shows that 58.7% of the variation in the dependent variable can be explained by SSP. The adjusted R Square, slightly lower at .586, accounts for the number of

predictors in the model and is a more accurate reflection of the model's explanatory power. The standard error of the estimate, .33133, suggests a relatively low level of deviation in the prediction. Based on a decision rule, since the R value is high and R Square is above 50%, SSP has a substantial impact on the dependent variable, suggesting the model is a good fit for predicting the outcome.

**Table 3 ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	53.911	1	53.911	491.092	.000 <sup>b</sup>
	Residual	37.873	345	.110		
	Total	91.784	346			

a. Dependent Variable: CF

b. Predictors: (Constant), SSP

**Source:** SPSS Output Version 27.0.1

Table 3 presents the ANOVA results for the regression model, with Customer Feedback (CF) as the dependent variable and Strategic Supplier Partnership (SSP) as the predictor. The regression model has a Sum of Squares of 53.911 and a corresponding Mean Square of 53.911. The F-value of 491.092 is extremely high, indicating that the model is statistically significant. The

significance level (Sig.) is .000, which is below the conventional threshold of .05, suggesting that the relationship between SSP and CF is statistically significant. Based on the decision rule, since the p-value (.000) is less than .05, we reject the null hypothesis and conclude that SSP significantly impacts CF. The model fits well in explaining the variation in CF.

**Table 4 Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients			Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.254	.126		9.970	.000
	SSP	.711	.032	.766	22.161	.000

a. Dependent Variable: CF

**Source:** SPSS Output Version 27.0.1

Table 4 presents the coefficients for the regression model, with Customer Feedback (CF) as the dependent variable and Strategic Supplier Partnership (SSP) as the predictor. The unstandardized coefficient (B) for SSP is .711, meaning that for every one-unit increase in SSP, CF increases by .711 units. The constant (B = 1.254) represents the expected value of CF when SSP is zero. The standardized coefficient (Beta) for SSP is .766, indicating a strong positive influence of SSP on CF. The t-value of 22.161 is very high, and the significance level (Sig.) is .000,

far below the .05 threshold. Based on the decision rule, since the p-value is less than .05, we reject the null hypothesis and conclude that SSP significantly affects CF. Thus, SSP is a strong predictor of CF.

### Testing of hypothesis two

**H<sub>02</sub>:** Internal lean practice does not significantly impact on the operational efficiency of Dangote Cement Company Obajana.

**Table 5 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810 <sup>a</sup>	.656	.655	.30076

a. Predictors: (Constant), ILP

**Source:** SPSS Output Version 27.0.1

Table 5 shows the model summary for a regression analysis with Internal Lean Practices (ILP) as the predictor. The R value of .810 indicates a strong positive correlation between ILP and the dependent variable. The R Square value of .656 suggests that 65.6% of the variation in the dependent variable can be explained by ILP. The adjusted R Square, slightly lower at

.655, corrects for the number of predictors and still indicates a strong fit. The standard error of the estimate is .30076, reflecting a relatively low level of error in the predictions. Using the decision rule, with an R Square above 50% and a high R value, we conclude that ILP significantly contributes to explaining the variance in the dependent variable, and the model is a good fit.

**Table 6 ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	59.395	1	59.395	656.626	.000 <sup>b</sup>

Residual	31.207	345	.090		
Total	90.602	346			

- a. Dependent Variable: OE  
b. Predictors: (Constant), ILP

*Source: SPSS Output Version 27.0.1*

Table 6 presents the ANOVA results for the regression model, with Operational Efficiency (OE) as the dependent variable and Internal Lean Practices (ILP) as the predictor. The regression model has a Sum of Squares of 59.395, with a Mean Square of 59.395. The F-value of 656.626 is extremely high, indicating that the model is statistically significant. The significance level

(Sig.) is .000, which is below the standard threshold of .05, confirming the statistical significance of the model. Based on the decision rule, since the p-value (.000) is less than .05, we reject the null hypothesis and conclude that ILP significantly impacts OE. Therefore, the model is a strong fit and ILP is a significant predictor of OE.

**Table 7 Coefficients<sup>a</sup>**

Table 7. Descriptive Statistics						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.303	.107		12.140	.000
	ILP	.693	.027	.810	25.625	.000

- a. Dependent Variable: OE

*Source: SPSS Output Version 27.0.1*

Table 7 presents the coefficients for the regression model, with Operational Efficiency (OE) as the dependent variable and Internal Lean Practices (ILP) as the predictor. The unstandardized coefficient (B) for ILP is .693, indicating that for every one-unit increase in ILP, OE increases by .693 units. The constant (B = 1.303) represents the expected value of OE when ILP is zero. The standardized coefficient (Beta) is .810, showing a strong positive impact of ILP on OE. The t-value of 25.625 is very high, and the significance level (Sig.) is .000, far below the .05 threshold. Using the decision rule, since the p-value is less than .05, we reject the null hypothesis and conclude that ILP has a significant positive impact on OE, making it a strong predictor of operational efficiency.

## Discussion of Findings

The findings of this study provide insights into how well-structured SCM practices contribute to cost reduction, timely deliveries, and improved customer satisfaction, reinforcing the importance

of supply chain integration in achieving sustainable business success.

The study established a significant relationship between strategic supplier partnerships and cost efficiency at Dangote Cement Company Obajana. Strong supplier collaborations enhance cost efficiency by reducing material costs, improving supply chain management, and increasing operational effectiveness. By fostering close communication and aligning with suppliers, the company can secure better pricing, ensure timely deliveries, and optimize productivity, ultimately gaining a competitive edge in the cement industry. These findings reinforce the importance of supplier partnerships in driving cost efficiencies and improving overall business performance.

Furthermore, the results align with previous research by Salami et al. (2024), Chileshe & Phiri (2022), and Utami et al. (2019), who found that supplier integration plays a crucial role in enhancing organizational performance. The study also supports the Supply Chain Integration (SCI)

Theory, which highlights the role of seamless collaboration among supply chain partners in improving efficiency. The findings suggest that strategic supplier partnerships not only strengthen operational ties but also create opportunities for innovation, process improvement, and better cost management, leading to sustainable competitive advantage.

Table 5 shows the model summary for a regression analysis with Internal Lean Practices (ILP) as the predictor. The R value of .810 indicates a strong positive correlation between ILP and the dependent variable. Hence, the study established that internal lean practices significantly enhance the operational efficiency of Dangote Cement Company, Obajana. The findings reinforce the importance of fostering a culture of continuous improvement within the organization, ensuring that operational efficiency remains a strategic priority. The study aligns with Supply Chain Integration (SCI) Theory, which highlights the role of seamless collaboration and lean practices in enhancing operational performance.

Furthermore, the study supports previous research by Raval et al. (2020) and Al-Doori (2020), which found a positive correlation between lean practices and operational efficiency across various industries, including banking. Their research highlights that organizations prioritizing Lean Six Sigma principles tend to achieve higher efficiency scores and that integrating lean management across the supply chain significantly enhances overall performance. Additionally, the findings suggest that organizational culture moderates the relationship between lean practices and operational efficiency, with a developmental culture proving most conducive to lean implementation. Thus, the positive impact of internal lean practices at Dangote Cement underscores the necessity of continuous improvement, ensuring that operational efficiency remains a central focus for long-term competitiveness.

## **CONCLUSION AND RECOMMENDATIONS**

The study demonstrated a significant relationship between strategic supplier partnerships and cost efficiency at Dangote Cement Company in Obajana. This finding underscores the importance of cultivating strong, collaborative relationships with suppliers to enhance operational performance and reduce costs. By effectively managing these partnerships, Dangote Cement can achieve improved pricing, timely delivery, and overall better resource management, ultimately contributing to a competitive edge in the cement industry. The positive impact of these partnerships emphasizes the need for companies to strategically engage with their suppliers as a vital component of their operational strategy.

The study also concluded that internal lean practices significantly impact the operational efficiency of Dangote Cement Company in Obajana. This finding highlights the effectiveness of lean methodologies in reducing waste, optimizing processes, and improving overall productivity within the organization. By implementing lean practices, Dangote Cement can enhance resource utilization and respond more effectively to market demands, ultimately leading to increased profitability and a stronger competitive position in the cement industry. The results emphasize the importance of continuous improvement and the adoption of operational strategies that prioritize efficiency.

Based on the findings of the study on the role of supply chain management (SCM) practices, particularly strategic suppliers' partnership and internal lean practices on the performance of Dangote Cement Company, Obajana., the following recommendations were made:

- i. Dangote Cement company should invest in initiatives that foster closer collaboration with suppliers, such as joint planning sessions and regular communication, to ensure alignment of goals and objectives.
- ii. The company should integrate specific lean tools such as value stream mapping, 5S, and Kaizen into its operations. These tools can help systematically identify and



eliminate waste, further enhancing operational efficiency.

## REFERENCES

- Adebanjo, D., Oke, A., & Tejan, S. (2021). Supply chain management practices in Africa: Challenges and opportunities. *African Journal of Management*, 7(2), 140-159. <https://doi.org/10.1080/23322373.2021.1876271>
- Adebanjo, D., Oke, A., & Tejan, S. (2021). Supply chain management practices in Africa: Challenges and opportunities. *African Journal of Management*, 7(2), 140-159. <https://doi.org/10.1080/23322373.2021.1876271>
- Aisha, A., & Abdullahi, N. (2024). Effect of focus strategy on the performance of Guinness Nigeria Plc, Abuja. *Abuja journal of business and management*, 2(4). <https://doi.org/10.70118/x2bhx433>
- Aladejebi, O. (2022). Supply chain management practices and performance in Nigerian manufacturing firms: A case study of Dangote Cement. *Nigerian Journal of Business and Economics*, 15(1), 45-60.
- Al-Doori, J. A. (2020). The impact of lean practices on operational performance in the banking sector: an empirical investigation. *International journal of services and operations management*, 37(1), 27-39.
- Amoako-Gyampah, K., Acquaah, M., & Essuman, D. (2021). Supply chain integration, competitive capabilities and firm performance in emerging markets. *International Journal of Operations & Production Management*, 41(1), 88-116. <https://doi.org/10.1108/IJOPM-04-2020-0203>
- Amoako-Gyampah, K., Acquaah, M., & Essuman, D. (2021). Supply chain integration, competitive capabilities and firm performance in emerging markets. *International Journal of Operations & Production Management*, 41(1), 88-116. <https://doi.org/10.1108/IJOPM-04-2020-0203>
- Chileshe, M. J., & Phiri, J. (2022). The Impact of Supply Chain Management Practices on Performance of Small and Medium Enterprises in Developing Countries: A Case of AgroDealers in Zambia. *Open Journal of Business and Management*, 10(2), 591-605.
- Elbaz, J., Spence, M., & Kerlin, J. A. (2022). Supply chain capabilities and organizational performance: A multidimensional view. *Supply Chain Management: An International Journal*, 27(3), 356-371. <https://doi.org/10.1108/SCM-06-2021-0278>
- Gunasekaran, A., Dubey, R., & Childe, S. J. (2022). Strategic supply chain partnerships: A global perspective. *International Journal of Operations & Production Management*, 42(4), 679-698. <https://doi.org/10.1108/IJOPM-06-2021-0397>
- Kumar, S., Singh, R. K., & Modgil, S. (2023). Leveraging supply chain practices for operational excellence: Evidence from manufacturing firms. *Journal of Supply Chain Management Science*, 4(2), 76-92. <https://doi.org/10.1108/JSCMS-12-2022-0085>
- Lawal, N. A., & Abdullahi, N. (2024). Effect of naira redesign policy on the performance of selected small-scale businesses in Gwagwalada Area Council, FCT-Abuja. *Abuja Journal of Business and Management*, 2(3). <https://doi.org/10.70118/ajbam-03-2024-51>

- Liu, H., Yeung, H. Y., & Cheng, T. C. E. (2022). Strategic supplier partnership: A comprehensive review of antecedents and performance outcomes. *Journal of Supply Chain Management*, 58(3), 56-72. <https://doi.org/10.1111/jscm.12345>
- Naslund, D., & Williamson, S. (2020). Lean practices in supply chain management: A review and framework. *Journal of Supply Chain Management Science*, 10(3), 215-232. <https://doi.org/10.1108/JSCMS-01-2020-0014>.
- Neely, A., Kennerley, M., & Adams, C. (2021). Performance measurement frameworks: A strategic perspective. *Journal of Operations Management*, 49(2), 205-220. <https://doi.org/10.1108/JOM-05-2021-0156>
- Nnajofofor, E. O., Mohammed, U. D., & Abdullahi, N. (2024). Impact of Nigeria's currency redesign policy on the performance of selected deposit money banks in Nigeria. *Abuja Journal of Business and Management*, 2(3). <https://doi.org/10.70118/ajbam-03-2024-45>
- Obi, C. A., Adebayo, O., & Eze, C. (2020). Enhancing operational efficiency in Africa's cement industry: The role of supply chain management practices. *Journal of African Business*, 21(4), 320-340. <https://doi.org/10.1080/15228916.2020.1796456>
- Raval, S. J., Kant, R., & Shankar, R. (2020). Analyzing the Lean Six Sigma enabled organizational performance to enhance operational efficiency. *Benchmarking: An International Journal*, 27(8), 2401-2434.
- Salami, Y. , Daniel, C. , Musa, A. , Ubolo, G. and Zina, E. (2024) Effect of Supply Chain Management on the Performance of Nile University of Nigeria. *Open Journal of Business and Management*, 12, 2430-2443. doi: [10.4236/ojbm.2024.124125](https://doi.org/10.4236/ojbm.2024.124125).
- Utami, C. W., Sumaji, Y. M. P., Susanto, H., Septina, F., & Pratama, I. (2019). Effect of supply chain management practices on financial and economic sustainable performance of Indonesian SMEs.
- Wong, W. P., Ignatius, J., & Soh, K. L. (2020). The role of supply chain practices in achieving operational efficiency. *Journal of Business Research*, 117, 308-316. <https://doi.org/10.1016/j.jbusres.2020.05.042>
- Wong, W. P., Ignatius, J., & Soh, K. L. (2021). The role of supply chain practices in achieving operational efficiency. *Journal of Business Research*, 117, 308-316. <https://doi.org/10.1016/j.jbusres.2020.05.042>
- Zhang, Y., Li, L., & Fan, S. (2020). Cost efficiency in the digital supply chain era: Insights from manufacturing firms. *Journal of Industrial Engineering and Management*, 13(3), 457-469. <https://doi.org/10.3926/jiem.3147>