

Effect of Supply Chain Management on the Performance of Nile University of Nigeria

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Abstract

This study investigates 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.

Keywords

Supply Chain Management, Strategic Supply Partnership, Procurement Success

1. Introduction

According to Muthoni and Mose (2020), the coordinated collection of strategies used to plan and execute all processes in the worldwide network used to obtain raw materials from suppliers, turns them into completed commodities, and distributes both goods and services to clients that are known as supply chain management (SCM). It comprises information exchange, planning, resource synchronization, and performance assessments across the entire tertiary institutions in Nigeria. Tertiary institutions especially private universities are synonymous with high capacities of services rendered, close engagement with their client for this reason, and their supply chains generate novel concepts and serve as benchmarked frameworks for other sectors (Elfawal et al., 2021). Nonetheless, this business is supported by a highly complicated supply chain structure. Despite the new concepts generated, supply chains face extraordinary hurdles and concerns. The educational sector is a fast-paced, dynamic industry with a diverse services offering. Educational institutions that use supply chain management (SCM) foster efficient supply chain management (Chemirmir & Ndeto, 2021). As a result, private universities must comprehend supply chain management principles and techniques to improve their competitiveness, overall profit, and overall organization performance (Hussain et al., 2018).

Private universities are dynamic in the sense that they integrate with suppliers, increase customer relationships, form alliances with market rivals, share knowledge with a focus on achieving effective supply chain, and encourage enterprise capability to compete in the manufacturing industry while increasing productivity levels (Prabusankar, 2017). An integrated supply chain enables chances to leverage the information built in collaborative processes, resulting in lower costs, increased value, and early detection of demand changes. Private universities supply chain collaboration improves timeliness in the delivery of services, financial returns, customer satisfaction, and supplier relationships internationally (Oshodi-na & Omoregbe, 2021). To successfully apply SCM, a company must achieve a reasonably high level of integration, which includes integration, coordination, and cooperation across companies and across the supply chain (Banerjee & Mishra, 2017).

According to Moazzam et al. (2018), if businesses do not please and keep their consumers, their financial performance, market domination, customer service, and sales growth suffer. These ever-changing client tastes and preferences provide a challenge for quality education products that must meet an ever-expanding range of customer wants. Because increased competition gives customers more options, gaining new clients does not ensure profitability as much as maintaining existing customers (Muthoni & Mose, 2020).

Article Structure

This article has seven sections. Section 1 is the introduction, Section 2 contains the research objectives, Section 3 contains the literature review, Section 4 con-

tains the research methodology, Section 5 contains findings, Section 6 contains the discussion and conclusion of findings, Section 7 contains the practical implication and Section 8 contains the recommendations.

2. Research Objective

To investigate the effect of strategic supplier partnership on the procurement success of Nile University of Nigeria.

3. Literature Review

Supply Chain Management

Supply Chain Management (SCM) is defined by [Dujak \(2019\)](#) as “the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistic Management operations.” Coordination and collaboration with channel partners, which might include suppliers, intermediaries, third party service providers, and customers, is also important. Supply Chain Management, in essence, blends supply and demand management within and between businesses. The Council of Supply Chain Management Professionals (CSCMP) defines Supply Chain Management (SCM) as: “SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities, including coordination and collaboration with suppliers, intermediaries, third-party service providers, and customers” ([Lutz et al., 2022](#)). The Council of Supply Chain Management Professionals (CSCMP) is constantly examining and updating the definition of supply chain management in order to keep up with the global growth of supply chains. The fundamental reason for changing the definition is that supply chain management has such a vast scope that it is frequently confused with logistics management. According to CSCMP, supply chain management encompasses activities ranging from raw material procurement to supply and demand management, manufacturing and production, inventory and logistics planning, order entry and order management, and the final delivery of finished items to customers ([Lutz et al., 2022](#)). SCM is described as understanding the specific role of coordination within a single business and across trade partners within the supply chain with the goal of increasing an individual organization’s and the supply chain’s overall performance ([Saikouk et al., 2021](#)). The administration of goods, information, and money as they flow from supplier to manufacturer to wholesaler to retailer to customer is known as supply chain management (SCM). SCM should be part of an organizational mindset that views the corporation as a whole rather than as individual business divisions ([Bimha et al., 2020](#)).

[Lee et al. \(2021\)](#) defined SCM techniques as focusing on the customer and leadership, internal lean practice, and information quality. In this study, we used four popular SCM techniques as our second order constructs of our independent variable: strategic supplier partnership, customer relationship management, in-

formation sharing and order accuracy. SCM practices include multi-dimensional construction, such as integration between companies and suppliers (referred to as upstream SC), integration between companies and customers (referred to as downstream SC), and integration that occurs within the company itself, such as integration between departments (Khanuja & Jain, 2022). The practice of SCM has two basic goals. The first is to enhance the performance of individual firms as well as all organizations in the SC. Another purpose of SCM practices is to minimize the total cost of the organization, allowing a business to function more effectively and efficiently (Elfawal et al., 2021). Chileshe and Phiri (2022) conceptualized supply chain management practices as; strategic supplier partnership, customer relationship, level of information sharing and quality of information sharing. Govindaraju et al. (2020) used strategic supplier partnership, strategic customer partnership, information technology, information sharing and innovation as supply chain management measures, while Jefferson & Siahaan (2020) used strategic supplier partnership, customer relationship, level of information sharing and postponement. In general, different researchers will utilize different SCM techniques to report their findings, and this study will be no exception, three dimensions of SCM practices were examined, namely strategic supplier partnership, customer relationship management and information sharing.

Strategic Supplier Partnership

Strategic supplier partnership is defined by Nenavani and Jain (2022) as the organization's long-term connection with its supplier. Strategic partnership focuses on long-term relationships between trading partners and encourages collaborative planning and problem-solving efforts (Jenkins & Holcomb, 2021). Organizational strategic partnerships create shared advantages and continued collaboration in important strategic areas like as technology, products, and markets. Strategic supplier partnership is intended to use the operational and strategic strengths of employee participating firms in order to help them achieve substantial competitive advantages (Govindaraju et al., 2020). Furthermore, intentional collaboration emphasizes direct, long-term relationships and encourages collaborative planning as well as activities related problem-solving. This strategy focuses on collaborative planning (mutual planning) and efforts to solve common challenges between firms and suppliers (Oduro et al., 2020).

Strategic supplier partnership is regarded as a supply chain outlook in which cooperation between partners and customers develops, loyalty, trust and integration is developed by cooperation between partners and customers to achieve long-term sustainable success (Daghar et al., 2021). Strategic supplier partnership focuses on long-term direct relationships with consumers for cooperative planning and problem-solving efforts. Efficient supplier collaboration plays a key role in a leading supply chain (Al-Shboul et al., 2018).

As a result of merging this information, a unique collection of knowledge that will grow firm knowledge can be generated. Improved knowledge among retail-

ers and suppliers may increase the likelihood of new product recognition (Green et al., 2019). Retailers encounter a variety of hazards during this procedure. To begin, retailers feature new, untested products in their selling pitches. Second, retailers' reputations will be jeopardized if the product fails to meet the needs of the customers. Customers will hold sellers accountable for offering low-quality goods. Third, shops will need to test new products in order to provide a diverse selection of options to customers. As a result, shops who have established relationships with suppliers are driven to showcase new untested products. Thus, integrated organizational strategies can carefully collaborate with suppliers to eliminate inefficient time and efforts (Song et al., 2020).

Procurement Success

Procurement, the process of acquiring goods, services, or works from external sources, plays a pivotal role in the success and sustainability of organizations across various industries (Patrucco et al., 2022). Procurement success goes beyond mere cost savings; it encompasses strategic sourcing, risk management, supplier relationship management, and adherence to ethical and sustainable practices. In this comprehensive discussion, we delve into the multifaceted importance of procurement success, exploring its impact on organizational efficiency, competitiveness, and long-term viability (Hallikas et al., 2021).

Procurement success begins with strategic sourcing, a process that involves identifying, evaluating, and selecting suppliers based on various criteria such as cost, quality, innovation, and reliability. A well-executed strategic sourcing strategy provides organizations with a competitive advantage (Nandankar & Sachan, 2020). By aligning procurement goals with overall business objectives, organizations can secure reliable and cost-effective sources of supply, ensuring the availability of quality goods and services to meet customer demands. One of the fundamental aspects of procurement success is achieving cost savings. Efficient procurement practices contribute directly to the bottom line by minimizing expenses related to the acquisition of goods and services (Bakhshi et al., 2023). Organizations can negotiate favorable terms with suppliers, optimize their supply chain, and implement cost-effective procurement processes. Cost savings not only enhance profitability but also allow organizations to reinvest in other critical areas such as research and development or employee development. A key component of procurement success is the effective management of supplier relationships (Nyamah et al., 2023). Strong collaboration with suppliers is essential for ensuring the timely delivery of quality products or services. Supplier Relationship Management (SRM) involves building long-term partnerships, fostering open communication, and jointly driving innovation. Successful SRM enhances reliability, reduces lead times, and creates a mutually beneficial environment that contributes to overall procurement success. Procurement success is closely tied to the ability to identify, assess, and mitigate risks effectively. The global business landscape is characterized by uncertainties such as supply chain disruptions, geopolitical tensions, and economic fluctuations (Patrucco et al., 2022). A

robust procurement strategy incorporates risk management practices to minimize the impact of unforeseen events. By diversifying supplier sources, implementing contingency plans, and staying informed about market trends, organizations can enhance their resilience in the face of challenges (Chowdhury et al., 2020).

Measuring performance is a critical aspect of procurement success. Establishing Key Performance Indicators (KPIs) allows organizations to track and evaluate the effectiveness of their procurement processes. Common KPIs include cost savings achieved, supplier performance, on-time delivery, and quality metrics. Through data-driven insights, organizations can identify areas for improvement, optimize their procurement strategies, and align them with overarching business objectives (Karttunen et al., 2022). In the era of digital transformation, technology plays a crucial role in achieving procurement success. The adoption of e-procurement systems, artificial intelligence, and data analytics streamlines processes, enhances visibility, and facilitates data-driven decision-making. Automation of routine tasks, such as purchase order processing and invoice reconciliation, reduces errors and allows procurement professionals to focus on strategic activities, thereby contributing to overall success (Karttunen et al., 2022).

The importance of sustainability and ethical procurement practices has gained prominence in recent years. Organizations are increasingly recognizing the social and environmental impact of their procurement activities (Aljanabi & Ghafour, 2021). Procurement success now includes considerations for environmental sustainability, fair labor practices, and responsible sourcing. Aligning procurement processes with ethical standards not only meets societal expectations but also mitigates reputational risks and contributes to long-term success (Lee et al., 2021).

Empirical Review

Chileshe and 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 result from this study showed that application of supply chain management practices influences performance with special effect from competition advantage. Anaja and Bagobiri (2022) examined the effect of supply chain management on Organizational Performance of selected Fast Moving Consumer Goods in Karu, Nigeria. The study employed a survey research design and data used was primary data. The study found that strategic supplier partnership has a statistically significant effect and relationship on organizational performance. Furthermore, Al-Rawashdeh et al. (2023) examined supply chain management and organizational performance using supply Chain Complexity as the moderating effect. This research used primary data collected through the use of questionnaires. The results of the study indicate that strategic supplier partnership has a strong positive impact on organizational performance.

Research Gap

There's been a lot of research done on how supply chain management practices affect organizational performance, especially in developing nations, but there's still a big gap in the context-specific analysis of how strategic supply partnerships affect procurement outcomes. Prior research has predominantly concentrated on more general measures of organizational performance and different approaches to supply chain management; however, it has not disentangled the precise impacts of supplier relationships that are strategic on procurement in the supply chain of a single university.

4. Methodology

This study adopted a descriptive survey research design. Descriptive survey research design is concerned with describing events as they are, without any manipulation of what caused the event or what is being observed. In surveys, views, facts, among others are collected, analyzed and used for answering research questions. The population of this study will be staff of Nile University of Nigeria. Thus, the population of this study comprises of Nine Hundred and Ninety-six (996) for both Academic and Non-Academic staff. The Sample Size is determined by a mathematical statistical method given by [Uakarn et al. \(2021\)](#). Thus, statistical Equation is presented as:

$$n = \frac{N}{1 + N(e)^2}$$

where:

n = signifies the sample size

N = signifies the total population under study

e = signifies the margin error = 0.05

Hence, the sample size is obtained as follows:

$$\begin{aligned} n &= \frac{996}{1 + 996 * 0.05^2} \\ n &= \frac{996}{3.49} \\ n &= 285 \end{aligned}$$

Clearly, based on the adopted Taro Yamene method, the sample size for this study is 285. This implies that 285 employees are selected from the total population of 996. The Primary method of data collection is adopted, with the usage of well-structured questionnaire. Questionnaire enables the researcher to get adequate and accurate information from the respondents. The questions were close-ended, used to get specific unique information. The 5 point Likert scale measures is used to determine the respondents' choice to the question asked. The scale ranges from Strongly Agree (SA) (5), Agree (A) (4), Undecided (U) (3), Disagree (D) (2), to Strongly Disagree (SD) (1).

This study used SPSS 2.0 to analyze and interpret data from inferential statistics in order to comprehend and analyze the information acquired through sur-

veys. Additional testing of the theories is necessary to ascertain whether strategic supply partnership has positively and significantly impacted on procurement success at Nile University of Nigeria.

Follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

where; ε = error term, β = coefficient of independent variable ($\beta_1 - 4$ = regression coefficient) and α = constant.

Y = Procurement success (PS)

X_1 = Strategic supply partners (SP)

β_0 = Intercept of relationship in the models

ε = error terms

$$PS_i = \beta_0 + \beta_1 SP_i + \dots + e$$

5. Findings

Table 1 represents the total number of questionnaires that were handed out or sent to participants, which in this case is 285. Out of the 285 distributed questionnaires, 264 were completed and returned. The percentage (93%) shows the proportion of questionnaires that were filled out relative to the total distributed. This completion rate of 93% suggests a relatively high level of response. The remaining questionnaires that were distributed but were not filled out or returned by respondents. The percentage (21%) indicates the proportion of questionnaires that were distributed but left unanswered.

Table 1. Response rate of respondent.

Categories	Rate	Percentage
Number of Questionnaires distributed	285	100%
Number of questionnaires filled	264	93%
Number of questionnaires not filled	21	7%
Total	285	100%

Source: Field Survey 2024.

Regression Analysis

A method for estimating or projecting a dependent variable's value based on the values of one or more independent variables is called linear regression. Similar to correlations, statistical regression assesses the connection or association between variables. Because of this, the equation of regressions in this study is frequently built around two sets of variables: independent and dependent variables. This study's main objective in using linear regression equations is to enhance the investigation's capacity to identify, understand, and forecast the designated variables.

Table 2 shows that the strategic supply partnership is a significant predictor

of the dependent variable (likely procurement performance or a similar metric), although it explains a modest portion of the variance (12.7%). The positive correlation ($R = 0.357$) suggests that better strategic supply partnerships are associated with improvements in the dependent variable, procurement success. The model is statistically significant, indicating that the relationship is unlikely to be due to chance (Sig. F Change = 0.000).

Table 2. Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.357a	0.127	0.124	0.82489	0.127	38.167	1	262	0.000

a. Predictors: (Constant), SP.

However, since a large portion of the variance (approximately 87.3%) is not explained by this model, it suggests that other factors also play significant roles in influencing the dependent variable, procurement success (PS). Future research could include additional predictors to improve the explanatory power of the model. Nonetheless, the current model provides a foundational understanding of the importance of strategic supply partnerships in the context being studied.

Table 3. ANOVA.

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	25.971	1	25.971	38.167	0.000b
1	Residual	178.278	262	0.680		
	Total	204.249	263			

a. Dependent Variable: PS; b. Predictors: (Constant), SP.

From **Table 3**, the ANOVA results confirm that the regression model is statistically significant. The Regression Sum of Squares (25.971) compared to the Residual Sum of Squares (178.278) indicates that a portion of the total variability in the dependent variable (12.7%) is explained by the Strategic Supply Partnership. The high F statistic (38.167) and the very low significance level (0.000) provide strong evidence that the strategic supply partnership significantly affects the dependent variable (Procurement Performance or similar). In summary, the ANOVA table reinforces the earlier regression analysis by confirming that the strategic supply partnership is a significant predictor of the dependent variable, procurement success (PS). Despite the model explaining only a modest portion of the total variability (12.7%), the statistical significance is strong, underscoring the importance of strategic supply partnerships in influencing procurement outcomes. This finding highlights a specific area for organizational focus and po-

tential improvement, while also suggesting that other factors should be investigated to fully understand the drivers of procurement performance.

Table 4. Coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.814	0.338		5.373	0.000
SP	0.493	0.080	0.357	6.178	0.000

a. Dependent Variable: PS.

From **Table 4**, the regression coefficient analysis reveals a statistically significant positive relationship between Strategic Supply Partnership (SP) and Procurement Success (PS). The coefficient $B = 0.493$ indicates that improvements in strategic supply partnerships have a notable impact on procurement success. For every unit increase in the strategic supply partnership score, procurement success is expected to increase by 0.493 units, highlighting the practical importance of fostering strong supplier relationships. The extremely low p -value (Sig. = 0.000) confirms that the observed relationship is highly unlikely to be due to chance. This strong statistical significance supports the reliability of the positive association between SP and PS. The high t-statistic (6.178) further reinforces the evidence that strategic supply partnerships are a significant predictor of procurement success. This strong t-value indicates a robust relationship, suggesting that efforts to improve supplier partnerships can lead to meaningful improvements in procurement outcomes.

6. Discussion and Conclusion

The regression coefficient analysis reveals a statistically significant positive relationship between Strategic Supply Partnership (SP) and Procurement Success (PS). This result is in line with the study of [Al-Rawashdeh et al. \(2023\)](#) who examined supply chain management and organizational performance using supply Chain Complexity as the moderating effect. The results of the study indicate that strategic supplier partnership has a strong positive impact on organizational performance. The result is also in line with the work of [Anaja and Bagobiri \(2022\)](#) who examined the effect of supply chain management on Organizational Performance of selected Fast Moving Consumer Goods in Karu, Nigeria. The study found that strategic supplier partnership has a statistically significant effect and relationship on organizational performance. Strategic partnerships and procurement success are essential components of organizational strategy and supply chain management, playing critical roles in driving growth, efficiency, and competitiveness. Strategic partnerships enable organizations to access resources, capabilities, and expertise that may not be available internally. By collaborating with

external entities such as suppliers, distributors, or technology providers, organizations can leverage specialized knowledge and resources to enhance their operations. Partnerships can help diversify risk by spreading dependencies across multiple entities. By collaborating with reliable partners, organizations can mitigate supply chain disruptions, manage market volatility, and address operational challenges more effectively. Partnerships foster innovation through knowledge sharing, joint research, and co-development efforts. By collaborating with innovative partners, organizations can accelerate product development cycles, introduce new technologies, and adapt quickly to changing market demands. Strategic partnerships facilitate market expansion by accessing new customer segments or geographical markets. Collaborating with established partners can provide market insights, distribution networks, and brand presence necessary for successful market penetration.

7. Practical Implication

The findings from the regression analysis suggest several practical implications. Organizations, including academic institutions like Nile University of Nigeria, should prioritize building and maintaining strong strategic supply partnerships as a means to enhance procurement success. Also, investing resources in developing strategic supplier relationships can yield significant returns in terms of procurement efficiency and performance. While the relationship between SP and PS is clear, additional research could explore other factors influencing procurement success to build a more comprehensive model. In conclusion, the regression coefficient analysis underscores the critical role of strategic supply partnerships in achieving procurement success. This relationship is both statistically significant and practically important, highlighting a key area for organizational focus and strategic improvement.

8. Recommendation

Based on the regression coefficient analysis, which reveals a statistically significant positive relationship between Strategic Supply Partnership (SP) and Procurement Success (PS), it is highly recommended that organizations, particularly Nile University of Nigeria, invest in and prioritize the development of robust strategic supply partnerships. This can be achieved through regular engagement with suppliers, fostering long-term relationships, and implementing collaborative planning and problem-solving initiatives. Such partnerships can enhance communication, reliability, and efficiency in procurement processes. Additionally, organizations should consider training procurement staff in strategic partnership management and leverage technology to streamline and strengthen supplier interactions. By doing so, the university can significantly enhance its procurement performance, leading to better resource utilization and overall operational success.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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