

Effect of Outsourcing Strategy on the Supply Chain Performance of Public Universities in Western Kenya

Drusila Moti and Donald Indiya Gulali

Maseno University
akundonald@gmail.com

doi: <https://doi.org/10.37745/ijeld.2013/vol12n81227>

Published October 29, 2024

Citation: Moti D. and Gulali D.I. (2024) Effect of Outsourcing Strategy on the Supply Chain Performance of Public Universities in Western Kenya, *International Journal of Education, Learning and Development*, Vol. 12, No.8, pp.12-27

ABSTRACT: *Supply chain management as a discipline has attracted both international and national business attention. The current global and local business environment is challenging. The challenges are brought about by global and local economic and political environment, stiff competition and technological disturbances. Amidst such challenges, investigation of supply chain strategies and supply chain performance in organizations has become imperative. Reviewed studies link supply chain management strategies and supply chain performance though limited studies have been done about public universities in Western Kenya. The main purpose of this study was therefore to establish the effect of outsourcing on the supply chain performance of public universities in the Western Kenya region. The study was anchored on resource-based theory. The correlational research design was adopted to guide the study. The study adopted a census approach to data collection; all 82 staff in procurement and finance departments in the ten public universities in Western Kenya took part in the study. The data was collected by use of questionnaires and scheduled interviews. A multi-model approach was adopted. The validity of the study was assessed by the use of expert opinion and the reliability of the research instrument was assessed by undertaking a pilot test where a threshold of 80% Cronbach's statistics was applicable. Data analysis utilized descriptive statistics, inferential statistics and structural equation modelling methods. Quantitative findings were presented using tables while qualitative results were presented in verbatim reports and discussed. The study will offer insights to scholars, professionals in the procurement discipline and policy makers among others.*

KEY WORDS: outsourcing strategy, supply chain performance, public universities

INTRODUCTION

Supply chain performance can be seen from two perspectives which are financial performance and non-financial performance. Financial performance relates to the effect of non-financial measures

of supply chain performance on the overall financial objective of an organization. On the other hand, none financial measures of supply chain performance are efficiency and effectiveness (Kakwezi & Nyeko, 2019). Joby, (2018) studied supply chain performance by undertaking an empirical literature review of 54 kinds of literature; the study findings were a bit exhaustive and elaborate. Some of the factors which the study found to be affecting supply chain performance were review period length, lead time, forecasting method, customer demand, information sharing and inventory control policy. However different they may look, these factors combined may lead to efficiency and effectiveness. Therefore, Kakwezi and Nyeko, 2019) and Joby's (2018) results are consistent in the measurement of supply chain performance.

Various empirical studies reviewed state some varied strategies to be considered to be affecting supply chain performance in organizations. Some of the listed supply chain strategies are Enterprise Replenishment planning (ERP), Organization Competence, Outsourcing strategies, warehouse management systems, forecasting and replenishment, collaborative planning and vendor-managed inventory (Lee, 2021). Consequently, supplier management, technology and organizational capacity have also been used to measure strategic supply chain management (Giathi, Abayo, & Mhoho, 2021). Besides these mentioned measurements, other featuring measurements of strategic management are procurement strategies, outsourcing, information technology and logistics and distributions (Onserio, Noor, & Kirima, 2021). For purposes of hypothesizing the study, common factors which are Outsourcing, procurement strategies, and logistics and distribution will be used to formulate the preliminary research objectives, however, for purposes of clarity and robust results, these factors will be subjected to factor analysis just like Lee (2021) carried out factor analysis to help identify the appropriate factors.

Akbari (2022) underscored the importance of outsourcing in supply chain management in the current business environment. The study outlines that with the many activities in an organization and given the current global business which is very competitive, organizations have been making use of outsourcing for business decision-making and also to ensure that they focus on their core business activities; in this way, they expect to gain competitive advantage. Ezmigna, et al., (2023) studied the relationship between the outsourcing model and the efficiency and performance of the supply chain in the hospitality industry, the findings revealed that outsourcing significantly influences supply chain efficiency and SMEs experienced improved performance after practising outsourcing. Taghipour, Khazaei, Azar, and Ghatari, (2022) further underpinned the importance of outsourcing, in yet another rigorous study, the study underpinned that outsourcing results in shared value, that it is a win-win strategy for both the seller and the buyer; this study used a rigorous mathematical model such as goal programming solved by a meta-heuristic algorithm.

The literature reviewed points to the fact that outsourcing is an important element in supply chain management, however, studies about outsourcing in the supply chain in Universities located in West Kenya are limited. Besides, most studies are either correlational or descriptive, the proposed

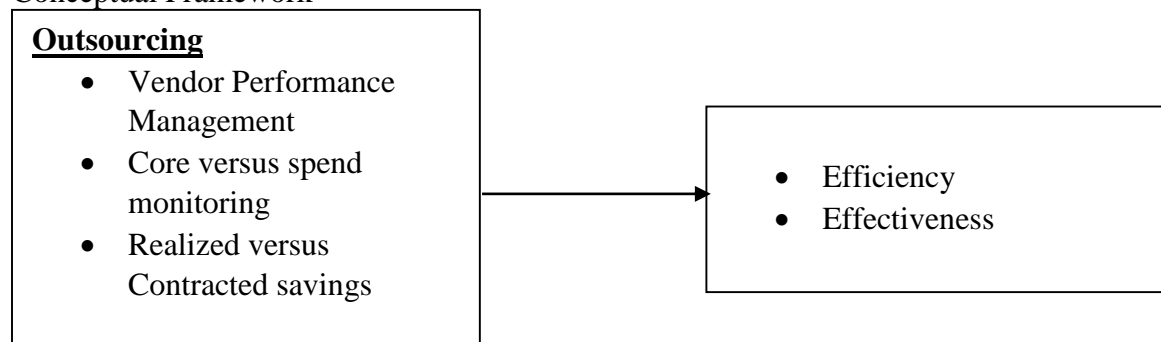
study however deviates and proposes a multi-model approach where multiple regression analysis will be used, Structural equation modelling will be used, focused group discussions will be applied and finally, interview sessions will also be applied. Besides, the study proposes to factor in factor analysis to help in the appropriate identification of supply chain strategies.

Procurement strategies in public universities encompass various practices aimed at optimizing the acquisition of goods and services. These include consortium purchasing, supplier relationship management, e-procurement, centralized procurement, and category management. Consortium purchasing, where universities collaborate to purchase goods and services in bulk, can lead to significant cost savings and improved bargaining power (Thai, 2001). Supplier relationship management focuses on fostering long-term relationships with suppliers to ensure reliability, quality, and innovation in the supply chain (Handfield et al., 2000). E-procurement, the use of electronic systems to manage procurement processes, enhances efficiency, transparency, and accountability (Croom & Brandon-Jones, 2007). Centralized procurement consolidates purchasing activities within a single department to streamline operations and reduce costs (Sourani & Sohail, 2015). Category management, which involves managing product categories as strategic business units, can lead to better decision-making and performance (Bensaou & Venkatraman, 1995). Despite the potential benefits, there is a need for empirical studies to evaluate the effectiveness of these strategies in the specific context of public universities in Western Kenya, where unique socio-economic and regulatory factors may influence their implementation and outcomes.

Main Objective and Hypothesis

The main objective of the study was therefore to determine the effect of outsourcing strategy on the supply chain performance of public Universities in Western Kenya. The study null hypothesis stated that there is no significant effect of outsourcing strategy on the supply chain performance of public Universities in Western Kenya.

Conceptual Framework



Resource-Based Theory

The Resource-Based View (RBV) theory, is a prominent strategic management framework. The theory suggests that an organization's competitive advantage and performance are determined by

its unique resources and capabilities. Birth to Barney (1991), the RBV affirms that for resources to have and maintain a competitive advantage, they must be valuable, rare, incomparable, and non-substitutable. The theory's focus is on the internal resources of an organization as the primary drivers of its strategic success, as opposed to external market conditions (Barney, 1991). Applying RBV to the study of supply chain management (SCM) strategies and their effect on the performance of public universities in Western Kenya provides a framework for understanding how SCM strategies such as outsourcing, procurement, and logistics and distribution can be examined through the lens of RBV to determine how they contribute to the universities' performance.

Public universities in Western Kenya can utilize outsourcing as a strategic tool to enhance their performance by focusing their internal resources on core educational activities while delegating non-core services to external providers. These external providers can offer high-quality services more efficiently than in-house teams, hence contributing to operational efficiency and cost savings (Quinn & Hilmer, 1994).

Effective procurement strategies, including centralized procurement, e-procurement, strategic sourcing, and supplier relationship management (SRM), align well with the RBV framework. These strategies enable universities to optimize their procurement processes, ensuring that they acquire high-quality materials and services at competitive prices. Centralized procurement and e-procurement systems streamline procurement operations, making them more efficient and cost-effective. Strategic sourcing and SRM foster strong relationships with suppliers, which can lead to better negotiation outcomes, improved supplier performance, and enhanced quality of goods and services. These capabilities are valuable and can be a source of competitive advantage when managed effectively (Barney, 1991).

Logistics and distribution as a component of SCM that impact the performance of public universities by ensuring the efficient movement and storage of goods. Effective logistics strategies include optimizing transportation efficiency, inventory management, and distribution network design. By integrating advanced logistics technologies and systems, universities can enhance their operational efficiency, reduce costs, and improve service delivery. These logistics capabilities are valuable and, when managed properly, can provide a competitive edge by ensuring that resources are utilized optimally and services are delivered efficiently (Lambert & Cooper, 2000).

The impact of SCM strategies on the performance of public universities can be measured through various key performance indicators (KPIs) such as efficiency quality, operational effectiveness, and administrative efficiency.

In conclusion, the Resource-Based View theory provides a comprehensive framework for analyzing how SCM strategies impact the performance of public universities in Western Kenya.

This alignment of SCM strategies with RBV principles underscores the importance of internal resource management in achieving strategic success and competitive advantage.

Transaction Cost Theory (TCT)

Transaction Cost Theory (TCT), developed by Ronald Coase (1937) and further elaborated by Oliver Williamson (1975), provides a framework for understanding the costs associated with economic transactions and the governance structures that organizations adopt to minimize these costs (Williamson, 1975). Applying TCT to the study of supply chain management (SCM) strategies and their effect on the performance of public universities in Western Kenya will offer valuable insights into how these institutions can manage transaction costs to improve their operational efficiency and overall performance. Outsourcing involves delegating specific services or functions to external providers, which can help universities reduce their transaction costs. Outsourcing allows universities to benefit from the expertise and efficiencies of specialized service providers, thereby reducing search and information costs, bargaining and decision costs, and policing and enforcement costs (Williamson, 1981). For example, a university outsourcing its IT services can leverage the provider's advanced technology and expertise, reducing the need for extensive in-house IT infrastructure and personnel.

Effective procurement strategies, such as centralized procurement, e-procurement, strategic sourcing, and supplier relationship management (SRM), can significantly reduce transaction costs for public universities. Centralized procurement and e-procurement streamline the procurement process, reducing search and information costs by consolidating purchasing activities and providing a centralized platform for procurement. Strategic sourcing and SRM enhance the bargaining power of universities, leading to better contract terms and reducing decision and bargaining costs. Moreover, maintaining strong relationships with suppliers can lower policing and enforcement costs by ensuring more reliable and consistent performance from suppliers (Williamson, 1985). For instance, centralized procurement systems can reduce redundancies and inefficiencies in purchasing processes, leading to cost savings and improved procurement performance.

Efficient logistics and distribution strategies are crucial for minimizing transaction costs associated with the movement and storage of goods. Effective logistics strategies also minimize the risk of disruptions and delays, further lowering policing and enforcement costs. Advanced logistics technologies, such as automated inventory management systems and real-time tracking, can help universities reduce search and information costs by providing accurate and timely information about inventory levels and shipment status (Coase, 1937). The impact of SCM strategies on the performance of public universities can be evaluated through key performance indicators (KPIs) such as cost efficiency, service quality, operational effectiveness, and administrative efficiency. In summary, Transaction Cost Theory provides a valuable framework for analyzing how SCM strategies impact the performance of public universities in Western Kenya. By focusing on

minimizing transaction costs through outsourcing, procurement, and logistics strategies, these universities can improve their operational efficiency, service quality, and overall performance.

According to Kinyanjui, (2014) in establishing the effect of procurement outsourcing on supply chain performance among manufacturing firms in Kenya the main objectives were: to determine the extent to which procurement outsourcing is done in manufacturing firms in Nairobi, Kenya, to determine the effect of procurement outsourcing on supply chain performance of manufacturing firms in Nairobi, Kenya and to determine the challenges in procurement outsourcing among manufacturing firms in Nairobi, Kenya. Statistical Package for Social Sciences (SPSS) was used to clean the collected data and finally for analysis. Descriptive statistics were used to analyze the data while regression analysis was used to test the relationship between the variables. The results revealed manufacturing firms outsource procurement practices to a great extent and this affects the supply chain performance of manufacturing firms in Kenya positively by leading to improved supply chain performance.

The main objective of this study was to determine the impact of outsourcing on the performance of parastatals in Kenya. The research relied on descriptive research design and a questionnaire was used to collect data of both open and closed-ended questions. The findings of the study revealed that the company considers outsourcing ICT and also focuses on competence, cost, flexibility, right time, qualification, professionalism, experience, reputation, right quality of service and type of relationship before deciding the company to outsource the service to. Also, the study revealed that the performance of the supply chain was influenced by quality of service, supplier management, supplier relationship, supplier selection, time service delivered and the internal assessment of the criticality of business activities.

Globalization and accelerated competition as well as the ever-increasing consumer demand for value have pushed firms to create value through the efficient use of limited resources; outsourcing is one of the ways through which firms attempt to address the new requirements of the market place. Outsourcing has been adopted by many organizations with much success. These organizations have reaped many benefits of outsourcing such as access to best-in-class technologies and reduced costs of operations. However, outsourcing may also pose major challenges to an organization like loss of control of the activities outsourced and dependency on suppliers. Available literature points to the role of outsourcing in various sectors but little research is available on the role of outsourcing in agricultural-related industries. This research discussed the effects of outsourcing on organizational performance at Delmonte Kenya limited. The objectives of the study were to investigate the activities/services/products outsourced by Delmonte Kenya Limited, to establish the extent to which outsourcing has contributed to focus on core competence at Delmonte Kenya Limited, to determine the link between outsourcing and accessibility to modern technology and expertise at Delmonte Kenya Limited, to investigate whether outsourcing has contributed to costs saving at Delmonte Kenya Limited and to investigate

effects of outsourcing on organizational flexibility of Delmonte Kenya Limited. The target population of the study was 250 employees who are in management levels in the company. A sample size of 70 employees was used in the study. Random and systematic sampling was used in selecting the respondents. The data was analyzed using descriptive data analysis through a computer-based statistical package on social sciences (SPSS). The finding shows that outsourcing has enabled the company to have greater access to Modern technology and expertise. The Company has been able to take advantage of Specialists' skills and technologies which are otherwise not available internally and extremely expensive to acquire and own internally. This has enabled the organization to increase its production capacity. The company's image has also been enhanced by being associated with niche service providers such as metro Trans and G4S. Statistically the main findings of the study were that outsourcing has helped improve the organization's performance through improved focus on core competence

Empirical Review of Literature

Empirical studies are important in research. It is imperative to do a thorough literature review. Thorough reviews help the researcher to find the foundation of the study, identify research problems and identify the knowledge gap or a niche in the study; what at times scholars call grey areas. Consequently, literature reviews help researchers to compare, contrast and critique the reviews and hence arrive at quality inferences (Western Sydney University Library, 2017).

Outsourcing and Supply Chain Performance

Ochieng and Muo (2023) studied strategic outsourcing and firm performance. The study method was the review of empirical studies. The study was anchored on Resource Based Theory (RBT), Social Exchange Theory (SET) and Transaction Cost Economic Theory. The study concluded that offshore outsourcing and service integration management influence organizational performance. In the study, firm performance was measured by employee satisfaction, customer satisfaction, efficiency and profitability. However, the study differs from the proposed study in that the proposed study will use questionnaires, interview schedules and focused group discussions to understand the relationship between outsourcing and supply chain performance. The reviewed study only focused on a review of pieces of literature which might not reveal what exactly is in the ground. Furthermore, the reviewed study used employee satisfaction, customer satisfaction, efficiency and profitability while the proposed study will concentrate on supply chain performance and not firm performance in general.

Tae et al (2022) studied the relationship between quality and supply chain performance. The study focused on logistics outsourcing and employed structural equation modelling. Survey data from 257 companies were used in the study. The mediation effect of logistics integration and distribution service performance was established in the study. According to Tae et al (2022), the study fills an existing void in the literature by establishing the link between relationship quality and the performance of the firm. Secondly, it improves on the existing literature about logistics service

providers and it is also of importance to various stakeholders. However, the proposed study will not use mediation analysis but instead use a multi-model approach. Therefore, the nature of the results given has differences in methodology and the population is therefore not known.

Pournader, Kach, Fahimnia, and Sarkis (2019) developed a model to study outsourcing in the process of supply chain management. The study opined that as outsourcing practices increased, the concept of both vendor practices and supply chain management also emerged. However, external entities cannot be controlled by individual organizations hence an outsourcer cannot control them; outsourcing therefore is essential. The study suggested a model for performance assessment concerning outsourcer's processes. The study concludes by highlighting the importance of outsourcing in improving supply chain performance. However, the study just developed a model and didn't employ qualitative data collection approaches such as the use of questionnaires, interview schedules and focus group discussions. It is therefore not clear how the results will compare given the differences in methodological approach.

Osoro and Wabuge (2020) Studied logistics outsourcing in supply chain management at Kenya Seed Company limited. The study used a cross-sectional research design given that cross-sectional research design allows for analysing different variables at the same time. The data in the study was analysed by use of both descriptive analysis and inferential statistics. Results revealed that information systems, supplier relationships, order processing and inventory management affect supply chain management at the Kenya Seed company. However, the study only focused on one firm which may fail to be generalized. Factors affecting supply chain performance in Kenya Seed may be firm-specific.

Seong-Jong Joo et al (2016) studied information system outsourcing and its impact on supply chain performance. The study focused on the global financial crisis which considered many firms changing their strategic thinking. According to the study changing the strategic thinking allowed the firm to focus on its core competency and has gained popularity over the years. They also studied information systems (IS) which is one of the supply chain essentials that are often outsourced and play an increasing role in facilitating business transactions, aiding decision-making processes and visualising assets throughout the supply chain. The study found that supply chain performance is influenced by the size of the outsourcing firm, the degree of the firm's recognition of the supply chain as its competitive advantage and the extent of prior outsourcing experience.

Previous reviews on outsourcing and supply chain performance are limited in many ways and hence do not present conclusive results. For instance, Ochieng and Muo's (2023) reviewed study only focused on a review of literature which might not reveal what exactly is in the ground. According to Tae et al (2022), the study fills an existing void in the literature by establishing the link between relationship quality and the performance of the firm. Secondly, it improves on the existing literature about logistics service providers and it is also of importance to various

stakeholders. However, their study used mediation analysis which is not a priority in the current study due to many shortfalls it faces. Pournader, Kach, Fahimnia, and Sarkis (2019) study just developed a model and didn't employ qualitative data collection approaches such as the use of questionnaires, interview schedules and focus group discussions. The study by Osoro and Wabuge (2020) only focused on one firm which may fail to be generalized. Factors affecting supply chain performance in Kenya Seed may be firm-specific. Finally, Seong-Jong Joo et al (2016) concentrated on outsourcing ICT services alone, which may not apply to other sectors. Therefore, the reviewed studies are limited in empirical evidence, methodologies and concepts on outsourcing which warrants a study to affirm the conclusions on this relationship.

METHODOLOGY

This study used correlation research design, which will help determine the relationship between outsourcing and supply chain performance, warehouse management system and supply chain performance and finally vendor optimization and supply chain performance. Consequently, the design necessitated establishing the effects of these predictor variables on supply chain performance. It examined supply chain management strategies and supply chain performance of Public Universities in the Western Kenya region. The study population consisted of all 82 procurement and finance officers/ internal auditorsof all the public universities in the Western Kenya Region. Currently, there are 8 public universities in Western Kenya. Using the re-engineered formula, the required sample size for a finite population of 85, with a desired margin of error of 5% and a 95% confidence level, is approximately 70. Therefore a sample size of 70 is appropriate and satisfies the statistical requirements for valid and reliable results. Data was collected using structured and unstructured questionnaires. Cronbach alpha coefficient revealed that the instrument is reliable at 0.789. Content validity was also carried out to ensure that the instrument is reliable. Data was analysed using standard multiple regression model.

Outsourcing

The respondents were asked to tick against which closely relates on their opinions on the effect of supply chain management strategies on supply chain performance of public universities in western Kenya. 1 = Strongly Disagree, 2 = Disagree, 3 = neither, 4 = Agree, and5 = strongly agree. The results are shown in table 4.3.

Table 4.3: Outsourcing

Statement	1	2	3	4	5	M	SD
Outsourcing Vendor Performance Management	17(25.8)	24(36.4)	2(3)	16(24.2)	7(10.6)	2.58	1.382
Core versus spend monitoring	19(28.8)	16(24.2)	9(13.6)	7(10.6)	15(22.7)	2.74	1.542
Realized versus Contracted savings	18(27.3)	13(19.7)	27(40.9)	6(9.1)	2(3)	2.41	1.081

The mean score of 2.58 indicates a general tendency towards disagreement with the statement regarding vendor performance management. Most respondents are either in disagreement (25.8% strongly disagree, 36.4% disagree) or neutral. The relatively high standard deviation (1.382) suggests a wide range of opinions among respondents. This might imply dissatisfaction or concerns about the effectiveness of managing vendor performance in outsourcing arrangements.

The mean score of 2.74 is slightly higher than the previous metric but still indicates a general disagreement or neutral stance towards core versus spend monitoring. The percentage of respondents who disagree or strongly disagree is significant (28.8% and 24.2%, respectively). The standard deviation of 1.542 shows considerable variability in responses, indicating that opinions on this aspect of outsourcing also vary widely. There may be concerns or confusion about the effectiveness or accuracy of monitoring core versus spend activities.

The mean score of 2.41 is the lowest among the three metrics, indicating the greatest level of disagreement or dissatisfaction. A substantial proportion of respondents disagree (27.3%) or strongly disagree (19.7%) regarding the comparison of realized versus contracted savings. With a high percentage of neutral responses (40.9%) and a standard deviation of 1.081, the results suggest a significant level of uncertainty or varying opinions on how well savings are realized compared to what was contracted.

The high standard deviations in all cases suggest varied opinions, highlighting areas where there might be a lack of consensus or clarity. These insights could be crucial for organizations seeking to improve their outsourcing strategies and address concerns effectively.

Table 4.4 :Percentage Variance in outsourcing strategies and supply chain Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.513 ^a	.263	.252	.88271	.263	22.857	1	64	.000

a. Predictors: (Constant), supply chain performance

R is the correlation coefficient (R) is 0.513, indicating a moderate positive correlation between the supply chain management strategies and supply chain performance. R Square the coefficient of determination (R^2) is 0.263. This suggests that approximately 26.3% of the variance in supply chain performance can be explained by the supply chain management strategies. This is a moderate proportion, indicating that while the model explains a notable portion of the variance,

there are other factors influencing supply chain performance that are not accounted for by this model. The adjusted R^2 is 0.252, which accounts for the number of predictors in the model. This value is slightly lower than the R^2 , reflecting a minor adjustment for the number of predictors and confirming that the model is reasonably robust in explaining the variance in supply chain performance. Standard Error of the Estimate the standard error of the estimate is 0.88271. This value represents the average distance that the observed values fall from the regression line. A lower standard error indicates a better fit of the model to the data. The R^2 change is 0.263, which means that the addition of the predictor (supply chain management strategies) contributes 26.3% to the model's explanatory power. The F statistic for the change in R^2 is 22.857. This statistic tests whether the change in R^2 is statistically significant.

The degrees of freedom for the model are 1 (df1) and 64 (df2), corresponding to the number of predictors and the number of observations minus the number of predictors minus one, respectively. The significance level (p-value) for the F change is 0.000. This indicates that the change in R^2 is statistically significant, suggesting that the model significantly improves the explanation of variance in supply chain performance compared to a model with no predict.

The regression analysis reveals that the supply chain management strategies have a moderate impact on supply chain performance in public universities in Western Kenya, accounting for approximately 26.3% of the variance in performance. This level of explanatory power indicates that while the strategies are a significant factor in determining supply chain performance, other variables not included in this model also play a role. The statistically significant F change supports the conclusion that the inclusion of supply chain management strategies as a predictor significantly improves the model's ability to explain variations in supply chain performance. In summary, the findings suggest that while supply chain management strategies are a relevant factor in enhancing supply chain performance, there is still a considerable amount of unexplained variance, highlighting the need for further investigation into additional factors influencing supply chain performance.

Table 4.5: Model Summary of Outsourcing Strategies and Supply Chain Performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	5.197	.559		9.298	.000
1 supply chain performance	-.799	.167	-.513	-4.781	.000

a. Dependent Variable: outsourcing

4. 1

A regression analysis was conducted to evaluate the impact of supply chain performance on outsourcing. The following results were obtained: The intercept of the regression model was statistically significant ($B=5.197$, $SE=0.559$, $t(64)=9.298$, $p<.001$). This intercept represents the estimated value of outsourcing when supply chain performance is zero. In other words, if there were no influence of supply chain performance, the predicted level of outsourcing would be 5.197. The regression coefficient for supply chain performance was negative ($B=-0.799$, $SE=0.167$, $t(64)=-4.781$, $p<.001$), indicating a significant inverse relationship between supply chain performance and outsourcing. Specifically, for each one-unit increase in supply chain performance, outsourcing is expected to decrease by 0.799 units. This suggests that higher supply chain performance is associated with a lower level of outsourcing. The standardized coefficient ($\beta=-0.513$) further supports this finding, showing a moderate negative effect of supply chain performance on outsourcing.

The results indicate that supply chain performance is a significant predictor of outsourcing, with a clear negative impact. The statistical significance of the findings ($p<.001$) confirms that these effects are not due to random chance. In summary, the analysis shows a significant negative relationship between supply chain performance and outsourcing, suggesting that improvements in supply chain performance are associated with reduced reliance on outsourcing.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

The data indicated that universities employing effective outsourcing strategies experienced improved efficiency and cost savings in their supply chains. Outsourcing non-core functions such as IT services, facility management, and catering allowed these universities to focus on their primary educational mission and leverage specialized external expertise. Outsourcing enabled universities to reduce operational costs and improve service delivery, aligning with best practices in supply chain management. However, challenges such as vendor management and service quality control were noted. These findings are consistent with literature suggesting that outsourcing can lead to enhanced operational efficiency and cost reduction (Handfield et al., 2009). Nevertheless, the need for robust vendor management practices to mitigate risks aligns with findings from studies on outsourcing challenges (Christopher, 2016). The study therefore concluded that Outsourcing can improve supply chain performance by reducing costs and allowing universities to focus on core functions and recommended that Public universities should adopt best practices in outsourcing, including rigorous vendor selection and management processes, to maximize benefits and mitigate risks.

REFERENCES

- Akbari, M. (2022). Outsourcing in Supply Chain Management. *Palgrave Handbook of Supply Chain Management*, 1-27.
- Anantadjaya, S. P., Nawangwulan, I. M., & Carmelita, P. w. (2021). Supply Chain Management, Inventory Management and Financial Performance: Evidence from manufacturing firms. *Home Archives 5(si)*.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.
- Bensaou, M., & Venkatraman, N. (1995). Configurations of interorganizational relationships: A comparison between U.S. and Japanese automakers. *Management Science*, 41(9), 1471-1492.
- Bowersox, D. J., Closs, D. J., & Cooper, M. B. (2013). *Supply Chain Logistics Management*. McGraw-Hill Education.
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press Chesang, S., (2013). Procurement Challenges in Public Universities in Kenya Unpublished MBA Project, University of Nairobi
- Carter, C. R., & Easton, P. L. (2011). Sustainable supply chain management: Evolution and future directions. *International Journal of Physical Distribution & Logistics Management*, 41(1), 46-62.
- Christopher, M., & Peck, H. (2012). Building the resilient supply chain. *International Journal of Logistics Management*, 23(3), 217-230.
- Christopher, M. (2011). *Logistics & supply chain management* (4th ed.). Pearson.
- Coase, R. H. (1937). The Nature of the Firm. *Economica*, 4(16), 386-405.
- Cohen, L., Manion, L., & Morrison, K. (2017). *Research methods in education* (8th ed.). Routledge.
- Curtis, E. A., Comiskey, C., & Dempsey, O. (2016). Importance and use of correlational research. *Nurse researcher*, 23(6).
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Croom, S., & Brandon-Jones, A. (2007). Impact of e-procurement: Experiences from implementation in the UK public sector. *Journal of Purchasing and Supply Management*, 13(4), 294-303.
- DeVellis, R. F. (2016). *Scale development: Theory and applications* (4th ed.). SAGE Publications.
- Ezmigna, I., Khraisat, Q., Alghizzawi, M., Omain, S. Z., Humaid, A. M., & Ismail, N. B. (2023). The Impact of Outsourcing Model on Supply Chain Efficiency and Performance in Smes: A case of Hospitality Industry. *International Journal of Professional Business Review* 8.

- Farsi, M., Bailly, A., Bodin, D., Penella, V., Pinault, P., Nghia, E. T., . . . Erkoyuncu, J. A. (2020). An optimization Framework for improving chain performance: Case study of a Case study of a bespoke service provider. *Elsevier*.
- Fawcett, S. E., Magnan, G. M., & McCarter, M. W. (2008). Benefits, barriers, and bridges to effective supply chain management. *Supply Chain Management: An International Journal*, 13(1), 35-48.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Francis, G. H. (2020). Influence of procurement process on the performance of public entities (A case study of Nairobi county government).
- Giathi, V. M., Abayo, R., & Mhoho, J. (2021). Strategic Procurement Management Process on Performance of Public Institutions in Kenya: A case of National Transport and Safety Authority. *International Academic Journal of Human Resource and Business Administration* 3(9), 434-463.
- Golpira, H., Tirkollae, E. B., Maihami, R., & Karimi, K. (2023). A robust Tri- Objective optimization to supply chain configuration under Vendor managed inventory policy considering supply chain visibility. *Elsevier*.
- Gunasekaran, A., Subramanian, N., & Rahman, S. (2015). Supply chain resilience: role of complexities and strategies. *International Journal of Production Research*, 53(22), 6809-6819.
- Handfield, R. B., Krause, D. R., Scannell, T. V., & Monczka, R. M. (2000). Avoid the pitfalls in supplier development. *Sloan Management Review*, 41(2), 37-49.
- Joby, G. (2018). A study of factors affecting supply chain performance. *Journal of Physics*.
- Kagundu, R., & Marwa, S. M. (2017). Quality issues in Kenya's higher education institutions. *Journal of Higher Education in Africa/Revue de l'enseignant supérieuren Afrique*, 15(1), 23-42.
- Kakwezi, P., & Nyeko, S. (2019). Procurement Processes and Performance Efficiency and Effectiveness of Procurement Function. *Int Journal of Social Sciences Management and Entrepreneurship* 3(1), 172-182.
- Kendagor, J. K. (2023). *Investigation on the Public-private Partnerships (Ppp) Success as Procurement Method for Infrastructure Development in Kenya: a Case Study of Public Universities in Nairobi Metropolitan* (Doctoral dissertation, University of Nairobi).
- Keshavarz, F., Ghorbani, F. K., & Pasandideh, S. H. (2021). Optimizing a two level closed-loop supply chain under the vendor managed inventory contract and learning: Fibonacci, GA, IWO, MFO algorithms. *Springer Link*.
- Kinyanjui, B. M. (2014). *Procurement outsourcing and supply chain performance of manufacturing firms in Nairobi, Kenya* (Doctoral dissertation).
- Kiplangat, H. K., Kangethe, N. S., & Momanyi, S. M. (2016). Challenges encountered by University Administrators in performance management and job satisfaction of academic

- staff in Kenyan Universities. *Journal of Emerging Trends in Educational Research and Policy Studies*, 7(6), 383-390.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press
- Kros, J. F., Falasca, M., & Nadler, S. S. (2013). Impact of just-in-time inventory systems on OEM suppliers. *Industrial Management & Data Systems*, 106(2), 224-241.
- Lambert, D. M., & Cooper, M. C. (2000). Issues in Supply Chain Management. *Industrial Marketing Management*, 29(1), 65-83.
- Lee, R. (2021). The Effect of Supply Chain Management Strategy on Operational and Financial Performance. *Sustainability* 13, 5138 <https://10.3390/su13095138>, 1-18.
- Lombard, M., Snyder-Duch, J., & Bracken, C. C. (2002). Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communication Research*, 28(4), 587-604.
- Murage, L. M., Njoka, J., & Gachahi, M. (2019). Challenges faced by student leaders in managing student affairs in public universities in Kenya.
- Ndung'u, N., Were, S., & Mwangangi, P. (2020). Influence of top management support on procurement regulatory compliance level in public universities in Kenya. *International Journal of Supply Chain and Logistics*, 4(1), 1-12.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Ochieng, S. B., & Muo, C. (2023). Strategic Outsourcing and Firm Performance:- A review of literature. *International Journal of Science and Humanities Research*.
- Onserio, D., Noor, I., & Kirima, E. (2021). Influence of Strategic Procurement on Performance of World Bank Funded Projects in Nairobi City County, Kenya. *International Journal of Supply Chain and Logistics* 5(2), 1-20.
- Osoro, A., & Wabuge, J. K. (2020). Factors Affecting Organization's Logistic Outsourcing in the Supply Chain Management in Kenya: A case of Kenya Seed Company Limited. *International Journal of Scientific and Research Publications*, 10(2), 255-262.
- Pournader, M., Kach, A., Fahimnia, B., & Sarkis, J. (2019). Outsourcing Performance Quality Assessment Using Data Development Analytics. *Elsevier* 207, 173-182.
- Prajogo, D., Olhager, J., & Fantazy, K. (2012). Supply chain strategies, capabilities, and performance. *International Journal of Operations & Production Management*, 32(10), 1153-1173.
- Quinn, J. B., & Hilmer, F. G. (1994). Strategic Outsourcing. *Sloan Management Review*, 35(4), 43-55
- Seeram, E. (2019). An overview of correlational research. *Radiologic technology*, 91(2), 176-179.
- Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2008). *Designing and managing the supply chain: Concepts, strategies, and case studies* (3rd ed.). McGraw-Hill.
- Song, L., Li, J., & Zhang, X. (2015). The Impact of Distribution Network Design on Logistics Performance: A Case Study of Chinese Universities. *International Journal of Logistics Management*, 26(1), 1-15.
- Polit, D. F., & Beck, C. T. (2006). *Essentials of nursing research: Methods, appraisal, and utilization* (6th ed.). Lippincott Williams & Wilkins.

- Sourani, A., & Sohail, M. (2015). The Delphi method: Review and use in construction management research. *International Journal of Construction Education and Research*, 11(1), 54-76.
- Tae, K. S., Hee, L. H., Taewon, H., & Byeonghwa, P. (2022). The Impact of Relationship Quality on Supply Chain Performance in logistics outsourcing . *Journal of Manegerial Issues*.
- Taghipour, A., Khazaei, M., Azar, A. A., & Ghatari, A. R. (2022). Creating Shared Value and Strategic Corporate Social Responsibility through Outsourcing within Supply Chain Management. *Sustainability* 14(4).
- Teijlingen, E. R., & Hundley, V. (2001). The importance of pilot studies. *Social Research Update*, (35), 1-4.
- Thai, K. V. (2001). Public procurement re-examined. *Journal of Public Procurement*, 1(1), 9-50.
- Wagner, S. M., & Busse, C. (2008). Managing innovation for supply chain integration. *Journal of Business Logistics*, 29(2), 119-131. of *Logistics Management*, 26(2), 205-217.
- Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*. Free Press.
- Williamson, O. E. (1981). The Economics of Organization: The Transaction Cost Approach. *American Journal of Sociology*, 87(3), 548-577.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism*. Free Press.
- Zailani, S., Jeyaraman, K., & Vengadasan, G. (2012). Sustainable supply chain management (SSCM) in Malaysia: A survey. *International Journal of Production Economics*, 140(1), 330-340.