
Effect of Supplier Relationship on Procurement Performance of Public Universities in Nairobi County

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Abstract:

Purpose: The study's main purpose was to determine the effect of supplier relationship and procurement performance of public universities in Nairobi County. The study was anchored on social exchange theory (SET), Transaction Cost Theory (TCT), Principal-Agent Theory and Resource Dependence Theory.

Material/methods: Target population were 73 employees in supply/procurement departments drawn from three public universities within Nairobi County. The study employed cross-sectional research design. The research employed the census technique. A 5-point likert scale questionnaire was used to collect data. Reliability of the questionnaire the study adopted Cronbach Alpha value. Data collected was analyzed using descriptive and inferential statistics.

Findings: The findings revealed that information sharing and management cooperation had a positive and significant influence on procurement performance of public universities in Nairobi County.

Conclusions/recommendation: The study recommended that institutions have regular information sharing with their suppliers. Finally, the institutions should ensure that suppliers have some level of bargaining power whereas the suppliers need to ensure that the institutions' profits are realized from procurement cost savings.

Keywords: Supplier relationship; information sharing; management cooperation; procurement performance

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1. Introduction

Procurement performance has emerged as a key source of business competitiveness. Effective procurement performance is essential in the development and continuance of companies' competitive edge in goods and services. Based on Gunasekaran and Ngai, (2014); Markovi'c and Mihi'c (2022), the incorporation of fundamental aspects like supplier relationship impacted the supply chain performance. The use of buyer-supplier

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interactions improves procurement performance and relationships, which eventually lead to financial performance (Vickery *et al.*, 2003). According to Atkins *et al.*, (2022), combining the buyer-supplier relationship with a supply chain management strategy improves competitiveness and performance.

The interaction between buyers and suppliers and procurement success has garnered considerable attention in the academia (Krishnan *et al.*, 2016). In managing transactions such relationships are more and more important (Krishnan *et al.*, 2016). While many studies have reported the advantages of buyer-supplier relationships, some studies claim that those advantages are not always realized. More research attention is needed to establish the relationship between buyer and supplier in service industry (Hald and Mouritsen, 2018)

Building great relationships with suppliers, according to Loice (2015), is one strategy for departments to improve their performance and service to other functions while also strengthening the firm's competitiveness. The impact of supplier relationship strategies on procurement performance is dependent on the merits expected by both parties. According to Rogers & Fells (2017) by regarding suppliers as partners and exchanging knowledge with them, organizations stand a chance at attaining better lead times and quality, enhanced flexibility in their operations and institute long-term cutbacks, consequently contributing to the firms improved value for the key client. Prior (2012) contends that the merits that emanate from collaborative associations present themselves in the shape of a company's capacity to involve suppliers and other stakeholders in commonly advantageous value exchanges. Without a doubt, Khan, *et al.*, (2015) saw supplier relationships as a resource that makes up the capital of a relationships between buyer-supplier in organization. Recent research on supplier relationships has aroused a lot of attention, especially since it's become clear that cultivating close relationships with suppliers provides a lot of benefits. The relationship between buyer and supplier has emerged into a new way of responding to increased competitiveness. However, less has been done in Kenyan universities

1.1 Statement of the Problem

Both public and private universities are concerned about procurement performance. Procurement performance is still a major issue in service delivery around the world (Robinson *et al.*, 2015). Nonetheless, as indicated by Manyenze (2013), public universities procurement has proved unsuccessful in achieving the bare minimum of optimizing efficiency in the procurement process and increasing savings. According to Karjalainen, (2019), the success of public universities' operations has significantly dropped from 3.25 % to 1.87 % through the years owing to problems relating to public procurement. In Kenya public universities suffered a 20 % to 30 % revenue loss in unrealized cutbacks through failing to implement best practices in procurement (RoK, 2014). Procurement operations at public universities have been marred by a lack of proper direction, poor coordination, slow delivery of goods on time, waste, delivery delays, and poor quality (Gatobu, 2020). In 2017, approximately Ksh. 4.1 billion of the Ministry of Higher Education budgets was lost due to procurement malpractices (Auditor General Report, 2017). As a result, it is paramount for public universities to create buyer-supplier relationship practices that boost the way suppliers respond to them.

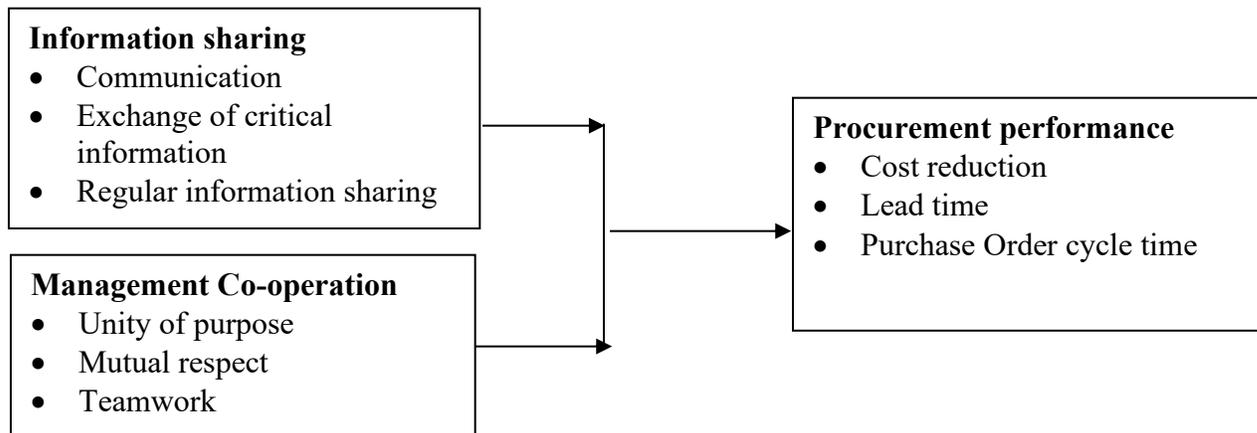
A number of studies on supplier relationship practices had been conducted. Hassan, Habib and Khalid (2014) conducted a review on the role played by buyer-supplier relationship in building companies' performance in chemical industry of Pakistan. They deduced that by guaranteeing expedient supplier payment, information sharing as well as strengthening relationships with suppliers, purchasers can effortlessly sky rocket their revenue. Nonetheless, the data was imprecise owing to the fact that merely six firms filled the survey forms out of the whole thirty firms cited in the KSE 100 chemical industry of Pakistan. Mugarura (2010) investigated the effect of buyer-supplier collaboration on relationship continuity in manufacturing companies within Kampala. The dimensions employed in the study included joint decision making, incentive alignment as well as information sharing with respect to trust, adaptation, commitment and relationship continuity; almost all were discovered to be positively and significantly correlated. The review strikes out in its attempt to resolve the debate on which buyer-supplier relationship in public universities would be instrumental to procurement performance. As can be seen from the preceding discussion, little research has been done on the buyer-supplier relationship practices used by Kenyan public universities. The purpose of this study was to see if the buyer-supplier relationship practices used by Kenyan public universities and their impact on procurement performance needed to be addressed for future growth.

2. Theoretical Review

The study was anchored on Social Exchange Theory (SET) Relational Exchange Theory. Ekeh (1974) proposed the social exchange theory (SET), a socio psychological process that views societal structures of the society as a process of coordinated exchanges between parties. Based on Pratt and Dirks, (2007) SET principles consist of cooperation, commitment, trust, communication (information sharing), relational norms and satisfaction. This theory related sufficiently to the typical relationship developed between purchasing companies and their suppliers. Social exchange theory is particularly popular for assessing buyer-supplier relations and strategic partnerships within the supply chain (Chao et al. 2013). For example, Vos, Pulle, and Schiele (2016) emphasized the importance of healthy relationships between customers and suppliers, claiming that a reliable social transaction is built on trust. According to Blau (1964), SET relationships are either maintained or terminated based on the positive or bad experiences of the two partners. Furthermore, SET is widely used in the supply chain genre to assess supply chain partnerships that produce added value for both parties (Chao et al. 2013;). Based on the Okdinawati, Simatupang & Sunitiyoso (2017) that trust forms the core of SET, the study uses social exchange theory to explain the relationship between buyer-supplier relationship (information sharing and cooperation) and procurement performance in Kenya public universities

2.1 Conceptual Framework

The study proposes a framework that diagrammatically represent effect of buyer relationship which is composed information sharing and co-operations as independent variables on procurement performance as dependent variable (see figure 1 below)



Independent Variables
Figure 1 Conceptual framework

Dependent variable

2.3 Empirical Review

Information Sharing and Procurement Performance

Furthermore, data sharing was an efficient forecast of Zhang & Chen's (2013) success in the supply chain. His review revealed that information sharing plays an important role in strengthening supplier relationships through better coordinated and reactive systematics and the incorporation of stakeholders' information systems. Kelepouris, Miliotis & Pramataris (2008) further argue that a successful information sharing between suppliers is also a key to procurement performance. Chinomona and Pooe (2013) realized that prompt and precise sharing of strategic information can strengthen the alleviation of unnecessary losses and expenses in a supply chain, therefore culminating in high SME profitability. Given the significance of information sharing in successful supply chains, it is an element worth looking into with respect to supplier performance, particularly in connection with SMEs.

The significance and implications of information sharing has been considerably analysed in various reviews (for instance, Zhang & Chen 2013), stressing on its essential character in buyer-supplier relationships (Cheng 2011). Barratt (2004), contends that information sharing greatly contributes to helping supply chain parties to collectively participate in common strategic endeavors and decision making. As such this may ensure that they can successfully and systematically collaborate and strengthen value generation of each supply chain unit in a more interdependent fashion. In this sense, Prajogo and Olhager (2012) present the argument that with sufficient and continued information flow between every unit of operation, supply chain systems are best placed to enhance the suppliers' capabilities to perform synergistically.

Luo, Sha and Huang (2013) did a study on the impact of information and knowledge sharing on the buyer-supplier relationship and performance in electronics industry. A

survey research instrument was generated drawing on a compilation of reviews and valid data was gathered through in-person interviews with 117 firms that supplied electronic devices. The findings revealed that information sharing can invoke knowledge exchange, consequently enhancing the supplier relationship including supplier performance.

Pooe, Mafiny, and Loury-Okoumba investigated the role of sharing of information, supplier synergy and in SMEs' supplier performance (2015). They used a quantitative study approach, with a sampling of 309 SME managers and owners in South Gauteng, South Africa, filling out the survey form. To test the qualities of the measuring scale, the review did a confirmatory factor analysis. The structural equation modelling method was utilized to evaluate the hypotheses. Information sharing was found to have a favorable and substantial effect on the supplier's confidence and synergy based on the study's findings. On the other hand, supplier synergy has a significant and beneficial impact on performance of supplier. Supplier trust, on the other hand, had a minor and inconsequential impact on procurement performance.

Singh, Kaur and Bishnoi (2019) examined the extent of the information sharing, trust and collaboration on the trade networks involved and tried to determine what construction had an impact on and development of the channel member's association. In particular, if these constructs explicitly affect the interaction between supply chain members and make conclusions. The study technique is inherently descriptive and exploratory in a cross-sectional design. This review results findings showed that sharing of information is essential for creating trust and continuing the development of the partnerships. The information sharing between enterprises and trust alone cannot be subject to trust and collaboration without sharing information. The sharing of information helps partners.

Management Co-Operation and Procurement Performance

Buyer and supplier cooperation is defined by Chinomona and Pretorius (2011) as a collection of shared practices between business associates or organizations with the intention of achieving common goals and established objectives that cannot be reached independently. According to Brito, Brito and Hashiba, (2014), cooperation among supply chain parties is fundamental in their capacity to put concerted efforts into achieving maximum firm performance. Reliable cooperation ventures from firm stakeholder's plays a consequential role in yielding superior performance results with respect to information sharing and sound as well as sufficient problem resolution (Cao and Zhang, 2011).

Buyer and supplier relationship commitment is fundamental to the establishment and maintenance of cooperation between entities (Chen *et al.*, 2011). Xie, Li, Su, and Teo (2010) postulate the additional focus of buyer-supplier cooperation as an essential cornerstone of the inter-agency. In addition, cooperation between buyer and supplier is an explicit driver of performance of organization (Zhu, Geng and Lai, 2011). Prajogo and Olhager (2012) also stressed that effective and systematic partnerships among the supply chain partners were critical to achieve the desired level of the supply chain. In cases, for example, where the supplier finds it difficult to meet the buyer's expectations, the latter can

help the supplier by launching a supplier development program so that it can meet the buyer's needs.

Mafini and Loury-Okoumba (2019) looked into the impact of buyer-supplier trust, engagement and cooperation on business success in the FMCG industry in South Africa (2019). FMCG enterprises in Gauteng Province used a quantitative research technique and structured surveys to collect data from 224 provider-management experts. With the help of a Confirmatory Factor Analysis, the psychometric features of the concepts were examined (CFA). The test results revealed a favorable and significant association between the three predictive structures (purchaser-company confidence and commitment and business performance. The most significant building to impact the enterprise's performance was the cooperation between the supplier and buyer. The findings of the study can be used as a diagnostic tool for addressing company performance issues in the FMCG sector.

2.3 Research Gap

Review of literature has given a clearly possible link between buyer supplier relationship and firm performance. However, these studies did not statistical and empirical evidence on how buyer supplier relationship variable (co-operation, information sharing) was affecting procurement performance in university setting. These studies were most done in commercial insurance and private firms. In addition, some of these studies give conclusive and mixed thus there is no consensus on how buyer supplier relationship affects procurement performance in university. These studies used qualitative approach using descriptive methods which did not give causal-effect relationship of buyer-supplier relationship on procurement variables, while as the current study uses co-operation and information sharing as proxies of buyer-supplier relationship previous studies used different dimensions. As such to fill the above gaps this study attempts to find out how buyer supplier relationship affects procurement performance in Kenyan public universities.

3. Methodology

A cross-sectional research design was used in this study for a population of 73 employees in supply chain/procurement drawn from 3 public universities within Nairobi County namely; Cooperative University College of Kenya (25), Technical University of Kenya (17) and University of Nairobi (31) (sourced from Universities HR Database, 2020). The study used census for all 73 participants. The study employed quantitative data. Mostly through questionnaires collected data. Open and close questions were included in the questionnaires used for the study. The questionnaire is structured to quantify the answers with a likert scale. To test validity and reliability of the questionnaire, 20 respondents (10 percent of the total sample size) were chosen from Kenyatta University to participate in pilot study and were not included in the sample chosen for this research (Mugenda and Mugenda, 2003). Face validity was attained when the questionnaire was critiqued by supervisors and experts and necessary adjustments were done. Face validity can be in the early stages of developing a questionnaire., construct validity was tested using factor analysis as postulated by Straub et al. (2004). Crobanch Alpha value is used to test the

reliability of the instrument. all items were retained for further analysis and none was dropped since the Cronbach's alpha coefficients were all above considered and recommended threshold of 0.7 and above Cronbach's alpha (Sekeran and Bougie, 2010).

3.1 Analytic model

The regression model is represented below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where

Y = Procurement performance

β_0 = Constant

X_1 = Information sharing Supplier development

X_2 = Management Cooperation

ε = Error term

4. Findings And Discussions

This section contains the analysis of the data and its interpretation. The information was analyzed in light of the study's objectives. The goal of the study was to see how supplier relationships (information sharing and cooperation) affected procurement performance at Nairobi County's public universities. A total of 73 questionnaires were disseminated, 65 were dully filled and returned giving a response rate of 89.04%. This was sufficient for data analysis (Mugenda & Mugenda, 2003). Thus, this was deemed effective and to offer considerable evidence to be utilized in overview of the different facets of the research under investigation.

4.1 Descriptive and Correlation Results

The study determines descriptive results for procurement performance, information sharing and management corporation. The overall mean for procurement performance was 2.918 with standard deviations of 0.898, indicating that there exist several gaps related to achieving procurement performance in the public universities in Nairobi County. The overall mean for information sharing was 2.788 with a standard deviation of .742, indicating that there is inadequate information sharing in the procurement processes in the public universities in Nairobi County. The findings on cooperation had a mean of 2.973 with standard deviation of .649, implying an insufficiency of cooperation in the procurement processes of public universities in Nairobi County.

Pearson Correlation was analysed to determine the directions, strength and significance of relationship between independent variables (information sharing and management cooperation) and dependent variable (procurement performance) and to estimate the degree of variation in the dependent variable (procurement performance) caused by the buyer-

supplier relationship construct. Table 1 illustrates the results. information sharing ($r=.692$, $p<0.01$) and corporations ($r=.702$, $p<0.01$) positively correlate with procurement performance. This implies that the probability of information and corporation increasing procurement performance is 69.2% and 70.2% respectively. This result shows a linear relationship (linearity) between (information sharing and management cooperation) and procurement performance.

Table 1: Pearson's Correlations

N=65	Mean	Std. Dev	PP	IS	MC
Procurement performance (PP)	2.918	0.898	1		
Information sharing (IS)	2.788	0.742	.692**	1	
Management Cooperation (MC)	2.973	0.649	.702**	.573**	1

** Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2022)

4.2 Regression Analysis

Regression analysis was carried out to establish the measure in the predicted variable (procurement performance) which can be estimated from the independent variables (information sharing and cooperation).

Table 2: Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-0.588	0.305		-1.925	0.059
Information sharing	0.493	0.110	0.407	4.500	0.000
Management Cooperation	0.303	0.141	0.219	2.147	0.036
Model summary					
R	.841				
R Square	0.706				
Adjusted R Square	0.687				
Std. Error of the Estimate	0.50246				
Analysis of Variance (ANOVA)					
F	36.1				
Sig.	.000				

a Dependent Variable: Procurement Performance

Based on the findings in Table 2, the coefficient of determination (R^2) for the effect of buyer-supplier relationship on procurement performance of public universities in Nairobi

County was 0.706. this implies that information sharing and cooperation explain 70.6% of the variation in procurement performance. To test the goodness of fit of the model for effect of buyer-supplier relationship on procurement performance of public universities in Nairobi County or significance of the R^2 , Analysis of Variances was conducted in Table 2. The significant value in the ANOVA results in Table 2 was 0.000, which is less than 0.05, indicating that the significance of the model in forecasting how information sharing and management cooperation influence performance of procurement in public universities. The entire model was determined to be significant since the F obtained from the ANOVA table was 36.1. As a result, the model was able to forecast how information sharing and management cooperation would affect procurement success.

Table 2 also presents the coefficient of estimate. All unstandardized beta coefficients were significant, indicating a positive effect of all the independent variables to the dependent variable. The relative contributions of the explanatory variables (information sharing and management cooperation) on the outcome variable (procurement performance) are shown in Table 2. Assuming the error term ε to be zero and substituting the unstandardized coefficients β values, the estimated multiple regression equation takes the form of:

$$Y = -0.588 + 0.407 X_1 + 0.219 X_2 + \varepsilon$$

Whereby; Y = Procurement Performance (the dependent variable)

X_1 = Information Sharing

X_2 = management Cooperation

If all other parameters are held constant, the β value represents the individual effect of each independent variable on the model. As a result, when other parameters remain constant, each unit increase in the independent variable leads to a unit rise in the dependent variable. The findings presented in table 2 above show that the coefficient of estimates of information sharing was 0.407 and had p value was 0.000 ($p < 0.05$), therefore, information sharing has a positive and significant influence on procurement performance. As such an increase in one unit of information sharing increases procurement performance by 0.407. The results lend support to assertions provided by Chinomona and Poee (2013) which indicated that prompt and precise sharing of strategic information can strengthen the alleviation of unnecessary losses and expenses in a supply chain leading to organizational profitability. In a similar vein, Barratt (2004) elucidated that information sharing greatly contributes to helping supply chain parties to collectively participate in common strategic endeavors and decision making. Further support to the findings is by Prajogo and Olhager (2012) who concluded that with sufficient and continued information flow between every unit of operation, supply chain systems are best placed to enhance the suppliers' capabilities to perform synergistically. Also, the findings tally with Hao *et al.*, (2013) who stipulated that information sharing can invoke knowledge exchange, consequently enhancing the supplier relationship including supplier performance. Additionally, Poee, Mafiny and Loury-Okoumba (2015) contended that information sharing was shown to have

a positive and significant impact on the confidence of the supplier and on the synergy of the supplier which in turn strongly and positively affects supplier performance.

The results on cooperation indicated that the p value was found to be less than 0.05 ($P < 0.05$), we therefore conclude that cooperation has a positive a significant effect on procurement performance. Therefore, an increase in one unit of cooperation increases procurement performance by 0.219. The results correspond with assertions made by Brito *et al.*, (2014) who alluded that cooperation among supply chain parties is fundamental in their capacity to put concerted efforts into achieving maximum firm performance. Similarly, Prajogo and Olhager (2012) also stressed that effective and systematic partnerships among the supply chain partners were critical to achieve the desired level of the supply chain.

5. Conclusion

information sharing contributed to an improvement in procurement performance of public universities in Nairobi County. Despite the positive relationship, there are still challenges in the communication between the buyer and suppliers. Specifically, the institutions are unable to ensure effective feedback in such a way that it is difficult to maintain regular information sharing with the suppliers. Also, within the institution, there are challenges in communication in a way that the management is not in a position to ensure effective and easy communication. It appears that other than communicating with suppliers, there are still gaps in information sharing that could negatively impact procurement performance.

cooperation was crucial to enhancing procurement performance in public universities in Nairobi County. Despite this, there are gaps in cooperation between the institution and its suppliers such that both parties are not in a position to benefit optimally from the relationship. It seems that the operations between the institution and the suppliers are yet to reach a level whereby the institution saves on cost through business with the suppliers while the suppliers are attaining their business goals in this relationship. Therefore, there is some level of buyer-supplier cooperation but not to the ideal level that stimulates superior procurement performance.

6. Recommendations

information sharing positively impacted on the procurement performance of public universities in Nairobi County. Thus, to improve further on the procurement performance, the institutions should ensure there is regular information sharing with their suppliers. It is also important for the institutions to have an information system for all projects. Moreover, the management need to ensure effective and easy communication between the institution and their suppliers. Further, in their relationship with suppliers, the institution and suppliers should keep each other informed about events or changes that may affect the other party.

since cooperation is an important component in attaining improved procurement performance, the institutions should ensure that suppliers have some level of bargaining power. On the other hand, suppliers need to ensure that the institutions' profits are realized

from procurement cost savings. In the same way, it is important for the procurement costs of suppliers' products to be highly competitive. Further, it is necessary to have a supplier relationship management program in place that ensures employees in the institutions are happy with the relationships that they have with their suppliers. In that way, the institutions are likely to realize enhanced procurement performance from the cooperation with suppliers.

Finally, policy maker such as ministry of education and The Commission for University Education, should come of with strategies that boost management commitment to suppliers, supplier development, information sharing and cooperation between suppliers and public universities in order to improve the performance of public universities in Kenya

7. Further Research Recommendations

The primary objective of the research was to determine the effect of buyer-supplier relationship and procurement performance of public universities in Nairobi County. The study contributes new information on the positive influence of information sharing and cooperation on procurement performance of of public universities in Nairobi County. As a result, more research is required to confirm if the findings hold for other types of institutions of higher learning. Future researchers could look into buyer-supplier relationship in the context of the coronavirus disease 2019 (Covid-19) pandemic and how it impacts on procurement performance in public universities. Finally, there is also a potential for comparative studies on the procurement performance of public universities before and during the Covid-19 pandemic.

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