



INFLUENCE OF SUPPLY CHAIN MANAGEMENT PRACTICES ON PROCUREMENT PERFORMANCE IN SELECTED URBAN ROADS AUTHORITY IN KENYA

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Abstract

This study was carried out to determine the influence of supply chain management practices on procurement performance in selected Urban Roads Authority in Kenya. The study had three objectives; establish the effects of supplier development, determine the effects supplier evaluation, and investigate the effects of supplier collaboration on Procurement Performance in Selected Urban Roads Authority in Kenya. The theories which underpinned this study were; Resource based Reinforcement and transactional cost. The study used a descriptive research design. The population of the study was 100 employees working for KURA Western Region; stratified sampling technique was used as stated by Mugenda and Mugenda. Mugenda and Mugenda (2013) stated that the sample of 35 percent is adequate to represent the population hence 72 percent which was used gave a perfect representation of the study. Questionnaires were used to collect the data. Data was analyzed using SPSS version 21. The study concluded that there is a significant positive influence between supplier development, supplier evaluation and supplier collaboration on procurement performance in selected Urban Roads Authority in Kenya. The study recommended that Kenya Urban Roads Authority should continually carry out



supplier development, supplier evaluation and supplier collaboration in order to enhance procurement performance of Kenya Urban Roads Authority. The study also suggested that further studies should consider other roads authorities such as Kenya High Authority (KeNHA) and Kenya Rural Roads Authority (KeRRA).

Keywords: Supplier Development, Supplier Evaluation, Supplier Collaboration, Procurement Performance, Urban Roads Authority

INTRODUCTION

Musyoki (2017) posits that supply chain (SC) encompasses all activities associated with free flow of goods and services from raw materials stage to the final product usable by consumers and emphasize on the integration of activities and information flows associated with them to achieve a competitive advantage of continuity and reliability. According to Lukhoba and Muturi (2015), many organizations aim at achieving survival and global leadership to increase innovation which can only be achieved by implementing a quality SC and continuous improvement of customer management through distinguished services.

Al-Doori (2019) stated that supply chain management (SCM) entails managing a network of interconnected businesses involved in the ultimate provision of products and services or service packages required by the end users. SCM practices are increasingly becoming an important feature in the attainment of competitive advantage in most organizations in the global markets today (Mamad & Chahdi 2013). Yegon et al., (2015) argue that the number of competitors is increasing and expanding both locally and globally hence organizations only has to re-establish their operations to produce goods and services of increased quality which will greatly differentiate them from others and make them respond to the changing market dynamics through the efficient and effective management of the SC.

Okello and Were (2014) reported that SCM has nowadays become a crucial strategy for firms to enhance their profitability and stay competitive thus it has been recognized as an important phenomenon that has generated extensive interest among managers and academic researchers. Karimi and Rafiee (2014) posits that over the last decade scholars have increased the degree of attention paid to SCM and this has resulted in a rich stream of research that mainly focused on particular aspects of the field of SCM that include among others supplier selection, supplier involvement, supplier alliance, supplier management, upstream supply chain related research, manufacturer and retailer linkages, supply chain resilience, SCM practices, sustainable and green supply chains.

Cormican and Cunningham (2011) posits that SCM practices impact not only on overall procurement performance but also on a competitive advantage of an organization hence they are expected to improve the organization's competitive advantage through price/cost, quality, delivery dependability, time to market, and product innovation. Prior study by Adebayo (2012) indicated that the various components of SCM practices have an impact on various aspects of competitive advantage such as price and cost for example, strategic supplier partnership can improve supplier performance, reduce time to market and increase the level of customer responsiveness and satisfaction. A study carried by Sarang et al., (2012) suggested that effective SCM practices have a direct impact on the overall financial and marketing performance of an organization and the practices are expected to increase an organization's market share, return on investment and improve overall competitive positions.

Corporations in Kenya and concluded that the four SC practices of outsourcing, distribution management, inventory management and procurement planning positively and significantly influenced procurement performance of state corporations in Kenya and encourages the state corporations in Kenya to adopt distribution management practices such as proper product tracking to reduce warehousing costs and improves on quality requirements. Gudda and Deya (2019) studied the effect of SCM Practices on the performance of SMEs in Nairobi which revealed that green SC, supplier relationships management, information technology, and logistics management have a positive relationship with performance of SMEs with a competitive advantage in price/cost, time and quality.

Kazi (2012) conducted a study on SCM practices and performance of Kenya Medical Supplies Agency and the findings of this study revealed that major SCM practices that have high positive impact on the SC performance are tracking and trace products in the SC and alerting customers on product availability which enhances timely delivery and reduces the lead time. A research carried by Jemutai and Kibet (2019) on effect of Supplier Assessment on Performance of Road Construction Projects in KURA found that supplier assessment affects quality, cost and time performance of road construction projects. Inferential statistics showed that there was a positive correlation between performance of road construction projects and supplier assessment in terms of timely delivery of the projects, costs and quality with a correlation figure of 0.526.

Mwili (2013) posits that as reported by PPOA in the public sector in Kenya, suppliers are in most cases conventionally selected on the basis of low price and less importance is given to the suppliers who give assurance of on time delivery and long-term relationships. Gachanja (2015) contends that the performance of roads in Kenya has not been adequate considering the presence of potholes on the majority of roads and traffic congestion has become a serious

problem particularly in the urban areas. According to Musyoki and Ngugi (2017) many suppliers have encountered challenges in dealing with the public organization during pre-contract, contract and post contract phases including but not limited to lack of poor communication, poor response to complaints and lack of commitment and equality.

Wamalwa et al., (2015) conducted a study in Steel Manufacturing Companies in Kenya investigating the impact of SC Collaboration Practice on the Performance of Steel Manufacturing Companies and the study showed that there is a significant and a moderate positive correlation between SC collaboration practice and the performance of Steel Manufacturing companies on various aspects of competitive advantage such as price/cost. According to Barasa (2016) SCM practices which include; SC collaboration practice, Green SCM practice, information sharing practice and Customer relationship management practice positively influence the performance of organization by ensuring continuous flow of raw materials to the organization hence quality products and reasonable costs. Mwilu (2013) in Kenya indicated that SCM practices like logistics, lean suppliers and information technology had a strong positive significant relationship with performance as better relationship helps to ensure continuous production and lead time reduction.

Statement of the Problem

In Iran Pumps Company, Karimi and Rafiee (2014) noted that in spite of the increased attention towards SCM practices the literature has not been enough to offer much guidance to help the practice of SCM and this could have been attributed to by the interdisciplinary origin of SCM, the conceptual confusion and the evolutionary nature of the SCM concept. In Punjab India Singha et al., (2017) argued that the existence of the large numbers of papers and case studies motivates to study further issues of SC since it is a complex area having large number of activities containing multiple functions hence a need for to conduct a similar study on SCM practices in developing countries like Kenya.

Njeri and Mutiso (2018) noted with concern that in South Africa, non-compliance to the procurement practices as there were many irregularities in tendering process as well as the looming corruption, incompetence of staffs and negligence on the side of the public servants. The study noted that South African is deemed to waste about 20% of government procurement budget leading to non-compliance to the Procurement Act. In Ghana Jonathan et al., (2013) stated that there has been a hitch in the flow of the supply chain network which in most case affects the performance of WAEC by causing delays in conduct of examinations at some centers, release of results and examination malpractices which goes in a long way to affect the quality in the conduct of examinations.

Maraga (2015) posits that the efficient performance of road infrastructure projects is essential for economic growth and development and in cognizance of this the Kenya government has put several measures to address performance of road infrastructure projects which included the enactment of Kenya Roads act 2007 which established the Kenya National Highways Authority (2007), Kenya Urban Roads Authority (2007) and Kenya Rural Roads Authority (2007) which were meant to provide a legal and institutional framework for construction, rehabilitation and maintenance of roads.

Mwandali (2013) reported that despite the creation of KeHNA, KURA and KERRA road infrastructure projects constructed by local firms, Kenya continued to face several challenges that led to poor performance of the projects in that on average only 39.4 percent of the road infrastructure projects constructed by local firms in Kenya were completed within the budgeted cost and scheduled time. According to the report Kenya attained an overall performance rating of only 36.9 percent on performance of road projects done by local firms during the period 2011 to 2014 as compared to Uganda's and Tanzania's rating of 40.5 percent and 43.7 percent respectively. Beyond East Africa, Zambia had 45.6 percent, China 70.5 percent, India 65.8 percent and Europe 71.5 percent. This showed that among the countries rated by World Bank, Kenya scored the least in performance of road construction projects.

Okello and Were (2014) stated that the concept of SCM has received increasing attention from academicians, consultants and business managers alike and many organizations have begun to recognize that SCM is the key to building sustainable competitive edge even though despite this increased attention the literature has not been able to offer much way of guidance to help the practice of SCM as the literature available is not adequate. Bosire (2011) argued that the delayed deliveries, poor quality products or services, non-completion of orders and even threats of litigation due to delayed payments is a common scenario experienced by public institutions in Kenya. Kiprotich and Okello (2016) stated that the Report by PPOA indicates that up to 30% of procurement inefficiencies in the public sector in Kenya are attributed to supplier's performance issues thus there is therefore concern as to what can be done to reduce supplier related procurement issues.

Kinai and Were (2017) stated that in spite of having many SCM studies undertaken by various scholars none of the studies have drawn much emphasis on how public sector organizations should improve the effectiveness through SCM practices hence, this has created a knowledge gap amongst procurement and logistics practitioners in public sector organizations. Owing to these challenges, it is essential to examine the influence of SCM Practices (supplier development, supplier evaluation and supplier collaboration) on procurement performance in selected urban roads authority in Kenya.

Objectives of the Study

- i) To establish the influence of Supplier Development on Procurement Performance in Selected Urban Roads Authority in Kenya.
- ii) To determine the influence Supplier Evaluation on Procurement Performance in Selected Urban Roads Authority in Kenya.
- iii) To investigate the influence of Supplier Collaboration on Procurement Performance in Selected Urban Roads Authority in Kenya.

Research hypotheses

H_{a1} Supplier Development has significant influence on Procurement Performance in Selected Urban Roads Authority in Kenya

H_{a2} Supplier Evaluation has significant influence on Procurement Performance in Selected Urban Roads Authority in Kenya

H_{a3} Supplier Collaboration has Significant influence on Procurement Performance in Selected Urban Roads Authority in Kenya

LITERATURE REVIEW

Theoretical Framework

The researcher reviewed theories relevant to SCM Practices and performance of public organizations. The underpinning theories included; Resource Dependence Theory (RDT), Reinforcement Theory and Transaction Cost Theory.

Resource Dependence Theory (RDT)

Musyoki and Ngugi (2017) posit that Resource Dependence Theory (RDT) which was promoted by Pfeffer and Salancik in 1978 is the study of how the external resources of organization affect the performance of the organization. Kannan et al., (2010) argued that the procurement of external resources is an important strategic decision taken by top management of any company where some firms become reliant on others for some inputs such as raw materials and for that the organizations specifically pursue comparative advantage in resources that can yield marketplace positions of competitive advantage and thereby superior financial performance.

Lewis et al., (2010) stated that RDT has implications in the procurement effectiveness of the buying firms especially in tapping into the relationship with suppliers as their important and dependable partners which operate to reduce environmental uncertainties and supply chain vulnerability. Wachiuri et al., (2015) argues that a firm's ability to gather, transform and exploit

resources such as raw materials faster than competitors bears significant strategic implications due to its influence on the firm's competitiveness. Notably resources are often controlled by organizations e.g. key suppliers not in the control of the firm needing them meaning that strategies including supplier development in the purchasing and supply management context must be carefully considered in order to maintain open access to resources (Abuzaid 2014).

Dyer and Nobeoka (2010) further elucidated the relevance of Resource Dependency Theory in supplier development through their recognition of knowledge as a strategically significant resource of the firm and the root of competitive advantage. In their analysis of inter-firm knowledge sharing literature they argue that scholars have recognized that inter-organizational learning is critical to competitive success and noted that organizations learn by collaborating with other firms as well as by observing and importing their practices. Ukalkar (2010) posits that the Resource Dependency Theory validates supplier development practices such as supplier partnership that are aimed at leveraging suppliers' specialized competencies for greater innovativeness and the ability to offer high quality products through greater collaboration between the buyer firm and its key suppliers.

Reinforcement Theory

Jepchumba and Kibet (2019) posit that this theory is based on operant conditioning developed initially by a psychologist by the name of B.F Skinner. The theory argues that the behavior of people is largely determined by its consequences. Those actions that tend to have positive consequences tend to be repeated in future while those with negative consequences are unlikely to be repeated again. Wamalwa et al., (2015) stated that as such the decision makers in organizations should endeavor to ensure that consequences of good performance are pleasant while those of poor performance are unpleasant and with regard to suppliers' evaluation, it should be made quite clear that meeting or surpassing the appraisal criteria would result in winning the confidence of the appraiser. This would ultimately result in the appraised benefiting by having contracts awarded to them which according to this theory can be referred to as the pleasant consequence.

Wabuti and Kioko (2016) posit that the basic idea underlying reinforcement theory is the concept of reinforcement itself. An event is said to be reinforcing if the event following some behavior makes the behavior more likely to occur again in future. Positive Reinforcement entails use of positive consequences that stimulates the desired behavior and strengthens the probability of repeat in such behavior in future. Suppliers can get positive reinforcement by being assured of continued business partnership should they continue meeting the client's

expectations. They can also be issued with recommendation letters or certificates of exemplary performance to motivate them to continue performing well (Robbins & Judge 2013).

Mwale (2014) argued that this theory is relevant to this study's supplier evaluation variable since for suppliers to continue enjoying the good results the suppliers are likely to do all they can to ensure they keep scoring well and maintain good performance in future. The poor performance they may record in some areas or instances is unlikely to be repeated in future events. According to Khuram et al., (2016) a procuring entity that applies prudent supplier evaluation stand to greatly benefit from good or improved performance of its procurement function now and in the future. Good supplier evaluation using the key parameters which are financial stability, quality aspects, reliability and past performance is a tool that can be used to put the reinforcement theory into practice in the area of supplier evaluation.

Transaction Cost Theory (TCT)

Wabuti and Kioko (2016) stated that the theory of Transaction Cost (TCT) was advocated by Williamson in 1979 which is an economic theory that provides an analytical framework for investigating the governance structure of contractual relations within a supply chain. Transaction Cost Economics (TCE) theory inspects how business partners who collaborate with each other shields one another from harmful subsidiary with differing relationships. According to Lysons and Farrington (2010) TCE has been the most important new institutional theory which puts the accentuation on the decision on the sourcing predicament, if to outsource or not which is likewise described as the make-or buy decision of a firm.

Wachiuri et al., (2015) stated that the theory delineates the actual cost of outsourcing production of products or services including transaction costs, contracting costs, coordination costs, and search costs and inspects how business partners who collaborate with each other shield one another from harmful subsidiary with differing relationships. The theory advocates for the inclusion of all costs and not just the market prices when making a sourcing decision hence illustrates the make versus buy decisions for firms. Lysons and Farrington (2010) further elucidate the theory referring to it as the idea of the cost of providing for some good or service if it was purchased in the marketplace rather than from within the firm and elaborate the three concepts that underpin the theory i.e. transaction costs, asset specificity and asymmetrical information distribution hence comprised of search and bargain costs; bargaining and decision costs and policing and enforcement costs.

Schiele (2011) posits that TCT validates contractual collaborative relationships between buyer firms and suppliers such as preferred suppliers network sourcing and partnerships and strategic supplier alliances (joint ventures) and notably all of these setups involve various

supplier development practices, ranging from supplier rating and accreditation to knowledge-sharing. Mutua and Moronge (2018) argued that according to TCT, supplier collaboration entails a buying firm making specific investments in terms of its human and/or capital resources in a buyer-supplier relationship on behalf of the supplier; a necessary condition for carrying out such relationship-specific investments being that these investments add value or reduce costs above what could have been achieved with the other two alternative strategies that may be utilized to address deficient suppliers i.e. supplier switching or vertical integration.

Conceptual Review

Wabuti and Kioko (2016) argued that the conceptual framework is a concise description of the phenomenon under study accompanied by graphical or visual depiction of major variables under study. According to Kothari (2011) conceptual frame work is a diagrammatical representation that shows the relationship between dependent variable and independent variables. Independent variables will be supplier development, supplier evaluation and supplier collaboration while the dependent variable will be the procurement performance.

Supply Chain Management Practices

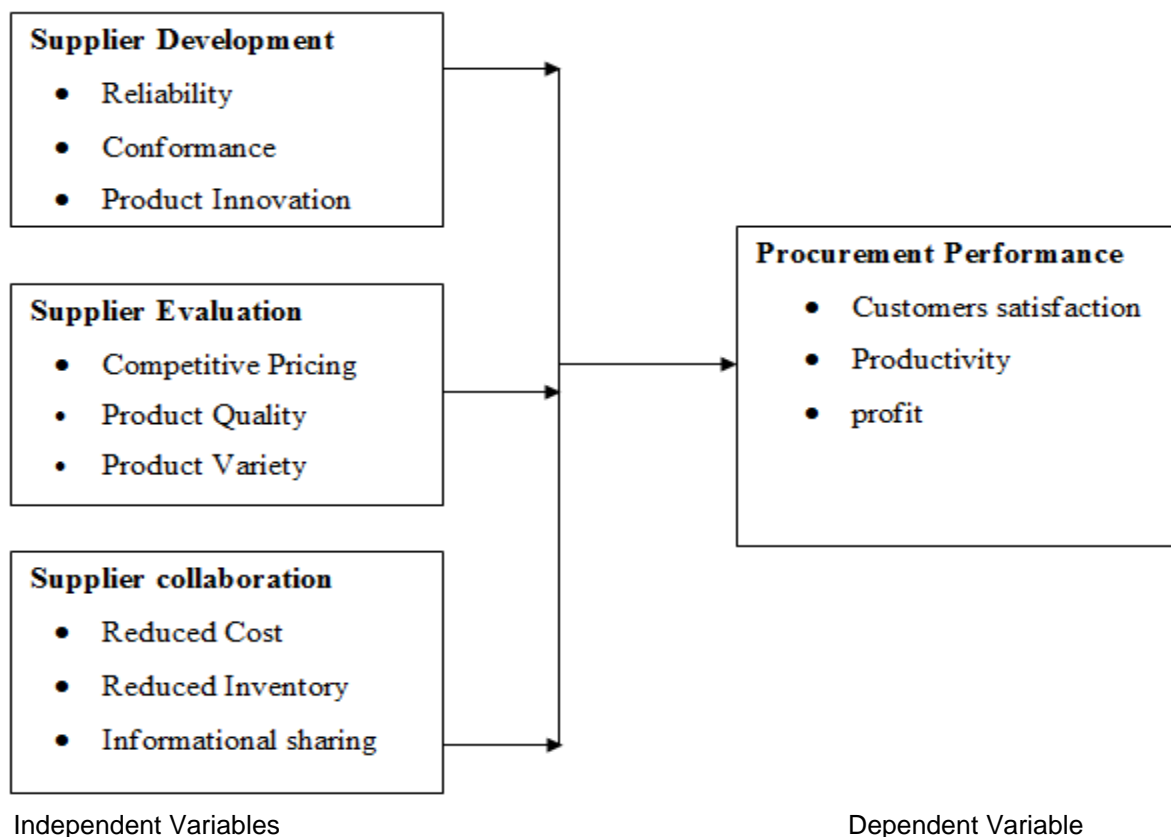


Figure 1: Conceptual Framework

Empirical Review

Supplier Development

Adedokun et al., (2017) studied the influence of Supplier Development on organization performance in Oyo State, Nigeria and the results reveal that supplier development has significant positive influence on operational performance of manufacturing organizations in terms of reduction of production cost, improving quality of product, speed to the market and operational flexibility. Wabuti and Kioko (2016) studied the effects of Supplier Development on Procurement performance at Kenya Power and Lighting Company Limited and the descriptive statistics revealed that the study's respondents agreed that supplier evaluation, supplier incentives and supplier partnership positively affected procurement performance in terms of cost quality and timely delivery at Kenya Power. Musyoki (2017) studied the effects of supplier development practice on performance of pharmaceutical suppliers for hospitals in Nairobi County and the findings revealed a positive significant relationship between supplier training, information sharing, management support, strategic partnership and performance of pharmaceutical suppliers for hospitals in Nairobi City County. Yegon et al., (2015) conducted a study on the effect of supplier development on buyer performance where the explanatory research design was utilized with a sample of 88 top level purchasing and marketing executives considered and the study found out that supplier technical support and supplier financial support had positive effect on buyer performance.

Supplier Evaluation

A recent study by Wachiuri et al., (2015) on supplier development practices employed by East Africa Breweries Ltd (EABL) established a significant positive relationship between supplier evaluation and feedback and the firm's overall organization performance in terms of profitability. Jepchumba and Kibet (2019) studied the effect of Supplier Evaluation on Service Delivery at Moi University and the study findings showed study variable supplier evaluation had a positive and statistically significant to service delivery at Moi University in Eldoret. Kiprotich and Okello (2016) studied the effects of Supplier Evaluation on Procurement Performance of Public Universities in Kenya and the findings of the study revealed that suppliers' quality commitment, suppliers' financial capacity and suppliers' competence have significant positive effect on performance of procurement of procurement function of public universities campuses in Kericho County. Sauda et al., (2019) studied the effect of supplier evaluation on performance of procurement contract and the study revealed that supplier evaluation had statistically positive significant effect on procurement contract performance in terms of supplier quality commitments and costs in Coast Provincial General Hospital. A research carried by Jemutai and Kibet (2019)

on effect of supplier assessment on performance of Road Construction Projects in KURA found that supplier assessment affects quality, cost and time performance of road construction projects where the inferential statistics showed that there was a positive correlation between performance of road construction projects and supplier assessment in terms of timely delivery of the projects, costs and quality.

Supplier Collaboration

Plane and Green (2011) conducted a study on Buyer-supplier collaboration and the study established that there emerged a consensus that amore relational procurement process has a positive influence on the relationship established and also that the perceived benefits of relational approaches included clarity of service requirements, value delivery, and cultural alignment however, this study did not show how buyer-supplier relationships affect procurement performance. Kinai and Were (2017) studied the role of supplier collaboration on organization performance a case of Kenya Urban Roads Authority and the regression results revealed that managed competition has positive influence on organization performance hence the implication is that an increase in Collaborative processes leads to increase in organization performance. Regression results further revealed that Value based compensation has positive influence in organization performance at Kenya Urban Roads Authority. Wamalwa et al., (2015) studied the impact of SC Collaboration Practice on the Performance of Steel Manufacturing Companies in Kenya and the analysis revealed that there is a significant and a moderate positive correlation between SC collaboration practice and the performance of Steel Manufacturing companies in Kenya. Barasa et al., (2015) studied the impact of SC collaboration practice on the performance of steel manufacturing companies in Kenya and the analysis revealed that there is a significant and a moderate positive correlation between supply chain collaboration practice and the performance of Steel Manufacturing companies in Kenya.

MATERIAL AND METHODS

This study adopted a positivism framework where data was collected and analyzed to gain an understanding of the issues underlying performance of organization. The study adopted a descriptive research design. The design was chosen because the researcher was interested on the state of affairs that already exist in the field. The target population for this study was 100 employees working for KURA Western Region and this explicitly covered all the members of each of the various departments. The study used a sample size of 72 respondents i.e. of 72% of the 100 population members, in line with Mugenda and Mugenda (2013) sample size recommendation for descriptive studies. Each cluster was equally represented in the sample as

shown in table 1 below. The formula below suggested by Oso and Onen (2011) was used in sample determination.

$$n_h = (N_h / N) * n$$

Where, n_h was the sample size for stratum h , N_h was the population size for stratum h , N was total population size and n was total sample size.

The study used stratified random sampling to select 72 staffs from the target population. Stratified random sampling was a probability sampling method that gave chance of selecting each unit within particular strata in a population (Mugenda & Mugenda, 2013).

Table 1: Sample Frame and Sample Size Distribution

Department	Department size in the population	Department allocation	Department sample size
Maintenance	45	72%	32
ICT	5	72%	4
Finance	15	72%	11
SCM	15	72%	11
HR and Admin	10	72%	7
Survey	10	72%	7
Total	100		72

In this study, the researcher used questionnaire which was self-designed. A 5 point Likert scale of 1-5 was used to measure respondent's response where 1 stood for very high or strongly agree and 5(five) stood for very low or strongly disagree. Also, some semi-unstructured questions were designed to ask the respondents to give their opinions or recommendations. The permission to collect data was also sought from the administration of the KURA Western Region. The researcher engaged two research assistants to administer the questionnaire to the respondents. A pilot test was conducted to test the reliability and validity of the data collection instruments. In this study 10% of the sample size was used as recommended by Hertzog (2008) and the purpose of pilot testing was to establish validity and reliability. To ensure validity of results given, the researcher developed adequate research items on each variable and in addition, the items were reviewed by the supervisor who gave feedback to the researcher before the actual data collection. Data reliability, which is a measure of internal consistency and average correlation, was measured using Cronbach's alpha coefficient which ranges between 0 and 1. Correlation analysis was used to test the correlation between individual indicators of SCM practices and performance of organization while a multiple regression was used to test the

overall effect of supplier development, supplier evaluation and supplier collaboration on procurement performance. The study adopted the following multiple regression model;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y – Procurement performance

X₁- Supplier Development; X₂ – Supplier Evaluation; X₃- Supplier Collaboration

B₀= Constant; B₁= regression coefficient of X₁; B₂= regression coefficient of X₂; B₃= regression coefficient of X₃

ε = error term, the disturbance between 0 and 1

RESULT AND DISCUSSION

Preliminaries Results

Out of 72 questionnaires administered 64 questionnaires were successfully filled and handed back to the researcher which gives 88.9% response rate.

Table 2: Reliability and Validity

Variables (Constructs)	Number of items	Cronbach Alpha	Remarks
Supplier Development	6	0.788	Accepted
Supplier Evaluation	6	0.842	Accepted
Supplier Collaboration	5	0.784	Accepted
Procurement Performance	6	0.889	Accepted
Factors	Number of Items	Overall Factor Loading	Remark
Supplier Development	6	0.706	Retained
Supplier Evaluation	6	0.577	Retained
Supplier Collaboration	5	0.813	Retained
Procurement Performance	6	0.658	Retained

The results as indicated in table 2 above, clearly shows that Cronbach alpha coefficients for all the variables were above the minimum threshold of 0.7 (Lowest, 0.784, highest 0.889) which is in line with (Kendell & Jablensky, 2003). Therefore, our study concluded that the 5-point scale of the items used to measure the study constructs was reliable and acceptable for further analysis.

The overall summary of the factor analysis for all the variables, the three factors measuring the independent variables and dependent variable are indicated on the table 2.0; Supplier development show that all the factor loadings for the 6 items were 0.706. All the items were retained based on the general rule of thumb for acceptable factor loading of 40%. The results of the factor analysis for supplier evaluation with 6 items yielded a factor loading of

0.577; no factor was dropped because they followed the acceptable threshold. The factor analysis for supplier collaboration, with five items shows factor loadings above 0.813. Since all the loadings were above 0.4, no factor was dropped because they followed the acceptable threshold. Procurement performance showed that all the factor loadings for the 6 items were 0.658. All the items were retained based on the general rule of thumb for acceptable factor loading of 40%.

Inferential Statistics

Inferential statistics are used to make inferences about the population based on the survey results. The findings would be more generalizable to the population if the sample is more representative. To generalize from the study to the population, hypothesis testing techniques are used. Inferential statistics is a term used to describe this form of analysis (Mugenda & Mugenda, 2003). Inferential statistics consisted of multiple correlation and multiple linear regression.

Combined Correlation Analysis for Independent Variables

Table 3: Correlations

		SD	SE	SC	PP
SD -Supplier Development	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	64			
SE -Supplier Evaluation	Pearson Correlation	.224	1		
	Sig. (2-tailed)	.075			
	N	64	64		
SC -Supplier Collaboration	Pearson Correlation	.589**	.156	1	
	Sig. (2-tailed)	.000	.218		
	N	64	64	64	
PP =Procurement Performance	Pearson Correlation	.605**	.490**	.567**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	64	64	64	64

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

There was a significant positive relationship between procurement performance and supplier development ($r=.605^{**}$, $P<0.01$) as shown in the table 3 with 99.0% confidence level. This means that improvement in supplier development will always result to improvement in procurement performance of selected Urban Roads Authority in Kenya. The positive relationship indicates that selected Urban Roads Authority in Kenya should put a lot of emphasis on supplier development.

The findings are in agreement with the study carried out by Yegon et al., (2015) on the effect of supplier development on buyer performance in sugar milling firms in western region of Kenya and the study found out that supplier technical support and supplier financial support had positive effect on buyer performance. The findings are also in line with the study carried out by Wabuti and Kioko (2016) that studied the effects of supplier development on procurement performance at Kenya power and lighting company limited.

There was a significant positive relationship between supplier evaluation and procurement performance ($r=.490^{**}$, $P<0.01$) as shown in the table 3.0 with 99.0% confidence level. This means that improvement in supplier evaluation will always result to improvement in procurement performance of selected Urban Roads Authority in Kenya. The direct relationship is an indication that selected Urban Roads Authority in Kenya should put a lot of emphasis on supplier evaluation.

The findings are in agreement with the study conducted by Kiprotich and Okello (2016) that studied the effects of supplier evaluation on procurement performance and concluded that suppliers' quality commitment, suppliers' financial capacity and suppliers' competence have significant positive effect on procurement. The findings are also in agreement with the study conducted by Sauda et al., (2019) effect of supplier evaluation on performance of procurement contract at coast provincial general hospital and concluded that supplier evaluation had statistically significant positive effect on procurement contract performance in coast provincial general hospital.

There was a significant positive relationship between procurement performance and supplier collaboration ($r=.567^{**}$, $P<0.01$) as shown in the table 3.0 with 99.0% confidence level. This means that improvement in supplier collaboration will always result to increase in procurement performance of selected Urban Roads Authority in Kenya. The positive relationship suggests that selected Urban Roads Authority in Kenya should consider the importance of supplier collaboration in their supply chain.

The findings are in agreement with the study carried out by Wamalwa et al., (2015) and concluded that supply chain collaboration practice statistically significantly predicted the performance of Steel Manufacturing Companies in Kenya with the analysis further revealing that there is a significant and a moderate positive correlation. The findings are also in line with Sauda et al., (2019) effect of supplier evaluation on performance of procurement contract at coast provincial general hospital and concluded that supplier collaboration had a statistically significant positive effect on procurement contract performance in Coast Provincial General Hospital.

Multivariate Regression Analysis

Multiple regression tries to figure out whether a set of variables will predict a single dependent variable (Mugenda & Mugenda, 2008). Multiple regressions was used in this case since there were multiple independent variables in the sample. This study was interested in finding out whether and how supplier development, supplier evaluation and supplier collaboration influence procurement performance at Kura. The three independent variables were considered together (one equation) as predictors of procurement performance. A multiple linear regression model was used to test the significance of the influence of the independent variables on the dependent variable.

Analysis of Variance

The results in table 4 shows an R square of 0.560, thus we infer that the study model explains 56.0% of the variations in the procurement performance in selected Urban Roads Authority in Kenya while other factors not in this study model accounts for 44%, thus, it is a good study model.

Further, ANOVA results in table 4 also shows that the F-statistical value is significant (F=25.443, significant at $p < .001$), thus confirming the fitness of the model. That is, from the study model, the significant F value show that the three independent variables (supplier development, supplier evaluation, supplier collaboration) are indeed different from each other and that they affect the dependent variable procurement performance in selected Urban Roads Authority in Kenya) in varied ways.

Table 4: Analysis for Variance

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	.748 ^a	.560	.538	.79309	.560	25.443	3	60	.000
a. Predictors: (Constant), Supplier development, Supplier evaluation, Supplier collaboration									
ANOVA^a									
Model		Sum of Squares	Df	Mean Square	F	Sig.			
1	Regression	48.010	3	16.003	25.443	.000 ^b			
	Residual	37.740	60	.629					
	Total	85.750	63						
a. Dependent Variable: Procurement performance									
b. Predictors: (Constant), Supplier development, Supplier evaluation, Supplier collaboration									

Regression Coefficient

From the values of unstandardized regression coefficients with standard errors in parenthesis in table 5, all the independent variables (supplier development; $\beta = 0.737$ (0.232) at $p < 0.01$; supplier evaluation; $\beta = 0.416$ (0.100) at $p < 0.01$; supplier collaboration; $\beta = 0.355$ (0.122) at $p < 0.01$; were significant predictors of procurement performance in selected Urban Roads Authority in Kenya (dependent variable). Therefore, the final multiple regression equation for overall significant multiple influence of the study's independent variables (supplier development, supplier evaluation, supplier collaboration) on procurement performance in selected Urban Roads Authority in Kenya (dependent variable) is;

$$y = -1.387 + 0.737X_1 + 0.416X_2 + 0.355X_3$$

Where;

y= procurement performance in selected Urban Roads Authority in Kenya

X_1 = supplier development

X_2 = supplier evaluation

X_3 = supplier collaboration

Table 5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.387	.727		-1.908	.061
1 Supplier development	.737	.232	.341	3.171	.002
Supplier evaluation	.416	.100	.365	4.152	.000
Supplier collaboration	.355	.122	.309	2.914	.005

a. Dependent Variable: Procurement performance

The study tested a total of three null hypotheses and the decision of accepting or rejecting each null hypothesis is explained as follows; The decision is to either accept the null hypothesis (H_0) if its corresponding unstandardized regression coefficient $\beta = 0$ and not significant at 5% ($p > 0.05$) from the multiple regression results; or reject the null hypothesis (H_0) and accept the alternative hypothesis (H_A) if its corresponding unstandardized regression coefficient $\beta \neq 0$ and significant at 5% ($p < 0.05$).

First, null Hypothesis) H_{01} : There is no significant influence of supplier development on procurement performance in selected Urban Roads Authority in Kenya. **Alternative Hypothesis) H_{A1} :** There is significant influence of supplier development on Procurement performance in selected Urban Roads Authority in Kenya. Results; supplier development; $\beta = 0.737$ significant at $p < 0.01$. **Verdict;** we reject the null hypothesis (H_{01}) and accept the

alternative hypothesis (H_{A1}) that there is significant influence of supplier development on procurement performance in selected Urban Roads Authority in Kenya.

The results are supported by Musyoki (2017) who studied the effects of supplier development practice on performance of pharmaceutical suppliers for hospitals in Nairobi County and the findings revealed a positive significant relationship between supplier development and performance of pharmaceutical suppliers for hospitals in Nairobi City County. Yegon *et al.*, (2015) conducted a study on the effect of supplier development on buyer performance and the study found out that supplier development had positive effect on buyer performance.

Second, null Hypothesis) H_{02} : There is no significant influence of supplier evaluation on procurement performance in selected Urban Roads Authority in Kenya. **Alternative Hypothesis) H_{A2} :** There is significant influence of supplier evaluation on procurement performance in selected Urban Roads Authority in Kenya. **Results;** supplier evaluation; $\beta = 0.416$ significant at $p < 0.01$. **Verdict;** we reject the null hypothesis (H_{02}) and accept the alternative hypothesis (H_{A2}) that there is significant influence of supplier evaluation on procurement performance in selected Urban Roads Authority in Kenya.

The research results are consistent with Sauda *et al.*, (2019) who studied the effect of supplier evaluation on performance of procurement contract and the study revealed that supplier evaluation had statistically positive significant effect on procurement contract performance. Jemutai and Kibet (2019) also studied the effect of Supplier Assessment on Performance of Road Construction Projects in KURA found that supplier assessment affects quality, cost and time performance of road construction projects where the inferential statistics showed that there was a positive correlation between performance of road construction projects and supplier assessment in terms of timely delivery of the projects, costs and quality.

Third, null Hypothesis) H_{03} : There is no significant influence of supplier collaboration on procurement performance in selected Urban Roads Authority in Kenya. **Alternative Hypothesis) H_{A3} :** There is significant influence of supplier collaboration on procurement performance in selected Urban Roads Authority in Kenya. **Results;** supplier collaboration; $\beta = 0.355$ significant at $p < 0.01$. **Verdict;** we reject the null hypothesis (H_{03}) and accept the alternative hypothesis (H_{A3}) that there is significant influence of supplier collaboration on procurement performance in selected Urban Roads Authority in Kenya.

The study's results are supported by Kinai and Were (2017) who studied the role of supplier collaboration on organization performance a case of Kenya Urban Roads Authority and the regression results revealed that managed competition has positive influence on organization performance hence the implication is that an increase in Collaborative processes leads to

increase in organization performance. Similar results were also obtained by Amuhaya (2014) who concluded that buyer/supplier collaboration enhances procurement performance hence creating a competitive advantage through sharing information making a joint decision, inter organizational relationship which indicates that the level of SC collaboration has an important interaction effect on the relation between external resources and buying firm performance, where collaborative forms of buyer-supplier exchange facilitate greater access to external resources.

CONCLUSION AND RECOMMENDATIONS

First, the study concludes that supplier development significantly influence procurement performance in selected Urban Roads Authority in Kenya. This is an indication that supplier development practices such as reliability especially during times of scarcity, right prices and variety of products influenced procurement performance of selected Urban Roads Authority in Kenya. Secondly, the study concluded that procurement performance in selected Urban Roads Authority in Kenya is significantly influenced by supplier evaluation. Suppliers offered competitive prices, variety of products and discounts to selected Urban Roads Authority in Kenya which significantly influenced their procurement performance. Finally, supplier collaboration has significant influence on procurement performance in selected Urban Roads Authority in Kenya. Kenya Urban Roads Authority Western Region shared information with suppliers. This increased the quantity of their supplies, reliability and timely in delivery of products hence improvement in the procurement performance of Kenya Urban Roads Authority. The study recommended that Kenya Urban Roads Authority should continually carry out supplier development in order to encourage good conformance and product Innovation. This can be achieved through joint sourcing between the organization and the suppliers must be supported from the entire organization. Further, KURA should continually train supplier on the need to embrace technology that will improve suppliers' conformity to specification given. The study recommended that to boost procurement performance, procurement officers should carefully assess supplier's competence in supplying quality goods/services before being awarded bids. The study also study recommended that the procurement office should consider supplier's quality commitment to ensure that procured goods/services meet customer needs and standards. Lastly, the study recommended that Kenya Urban Roads Authority should strive to create and abide more on supply collaboration through sharing of information which would enhance joint inventory management between the KURA and the supplier and promoting shared benefits and as well as resolving immediate problems that would disrupt supply chain performance.

LIMITATIONS OF THE STUDY

SCM has vast areas of managerial practices hence it was difficult and unmanageable to study the whole areas of it and therefore the scope of this study was limited to specific context of SCM practices and their impact on procurement performance in selected Urban Roads Authority. The subject scope of SC practices was also limited to the organization's point of reference towards supplier development, supplier evaluation and supplier collaboration practices. In terms of procurement performance the study limited to procurement performance which was measured by customer's satisfaction, productivity and profit.

SCOPE FOR FURTHER STUDIES

The current study focused on assessing the effect of project resource management practices on timely completion road projects in Kakamega County, Kenya specifically on how resource planning, resource scheduling, resource allocation and resource monitoring affects timely completion of road projects. Therefore, further studies should be carried out on how project resource management practices affect the performance of road projects in Kakamega County, Kenya.

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