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Effect of Supply Chain Linkages on the Procurement Performance of County Governments in North Rift Region

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Abstract: **The main objective of the study is to determine the moderating effect of information sharing on the relationship between supply chain linkages and procurement performance among county governments in north rift region. The specific objectives of the study were: To determine the effect of customer linkages on procurement performance, to establish the effect of supplier linkages on procurement performance and to determine the effect of internal linkages on procurement performance. The study was informed by transaction cost economics theory resources based view theory and cox theory. The study adopted the explanatory research design. The study unit of analysis was 354 employees in procurement departments drawn from 6 county governments in North Rift. The study conducted a census survey on target population of procurement employees of County governments. Structured questionnaires were used to collect data for dependent and independent variables. To test for reliability of research instrument, the researcher used the internal consistency technique by employing Cronbach Alpha value. Descriptive and inferential statistics was also used to classify, analyze and interpret the data. Correlation analysis was used to test linear relationship, while multiple regression models were used to analyze data in order to test the hypotheses for the study. Data was presented using tables. The study found that customer linkages, supplier linkage and internal linkages have a positive and significant effect on procurement performance. The study concludes that customer linkages, supplier linkage and internal linkages are key determinants of procurement performance. There is need for firm managers to understand and find ways to effectively manage these interactions. Suppliers should also be allowed to contribute product ideas and also participate in the design phase of the firms' product for the purpose of product improvement. There is need for firms to integrate their system so that they can have information flow within the firm.**

Keywords: **Supply chin linkages, Procurement Performance.**

1. INTRODUCTION

Procurement performance has become an important focus of competitive advantage for business organization. Effective procurement performance is important to build and sustain competitive advantage in product and services of the firms Gunasekaran and Ngai, (2004).Sufian (2010) stated that the performance of supply chain was influenced by managing and integrating key element such as supply chain linkages and information into their supply chain. Vickery *et al*., (2003) showed that supply chain coordination and linkages is facilitated by using supply chain linkages, which directly impacts a financial performance of the firms. According to Sufian (2010) to achieve a competitive advantage and better performance, supply chain management strategy need to be linked with supply chain linkages**.** In this globalized era, most industries will not be able to survive by simply optimizing internal structures and infrastructures based upon business strategy. The most successful county governments seem to be those that have carefully linked their internal processes to external suppliers and customers in unique supply chains (Zailani and Rajagopal, 2005). According to Lee *et al*., (2007), he found that internal linkages is the most contributing practice to cost reduction while linkages with the supplier is the

most important practice to reliable SC performance. Supplier linkages also minimizes the inspections of incoming materials as the customer firm will have an impetus to assist and certify suppliers on quality management resulting in improved productivity and quality and better design of parts (De Toni &Nassimbeni, 2000). Moreover, supplier linkages will ensure a flexible and reliable supply of materials in a mass customization environment at a low cost (Liu *et al*., 2010). Furthermore, integrating suppliers in new product development activities result in improved product quality, reduced development time and engineering changes, reduced costs, and early resolved potential problems of the supplier (De Toni &Nassimbeni, 2000). Customer linkages allow companies to enhance customer responsiveness due to increased ability to anticipate and track customer complaints, demands, and needs (Hausman & Stock, 2003). Kratochvil and Carson (2005) argued that customer linkages leads to reduced steps in a business process and minimized losses by eliminating misunderstanding in the order process, which subsequently result in lower costs, improved quality and delivery, and increased customer responsiveness. Companies are forced to identify customer needs and wants in a timely manner in order to be able to respond to their varying preferences. Integrating customers allows companies to identify their needs and address them through SC tasks such as continuous replenishment, flexibility and stock management, and on time delivery (Cox *et al*., 2003). Customer linkages enable companies to differentiate their products from rivals and considerably enhance the provided value to customers and increase customer satisfaction and loyalty (Cox, 2004). Internal linkages allows companies to meet and improve production scheduling through cross-functional linkages , supply and demand planning, production scheduling and planning, and customer demand management (Stratman& Roth, 2002). Internal linkages minimize conflicts and misinterpretations, facilitate the flow of information among different functions, and focus all the efforts towards fulfilling customer orders and requirements in a timely manner. Moberg*et al*., (2002) asserted that timely and shared information in the SC results in more accurate decisions and can be regarded as a pillar of superior performance. Shared information enables companies to enhance inventory control and management and increase inventory turnover. Furthermore, shared information among SC partners improves delivery performance, logistics communication, and SC planning (Trevile*et al*., 2004). Additionally, information sharing significantly reduces costs (Wang *et al*., 2006), shortens cycle time (Lin *et al*., 2002), and improves overall SC performance (Zhao *et al*., 2002). Procurement encompasses the whole process of acquiring property and/or services. It begins when an agency has identified a need and decided on its procurement requirement. Procurement continues through the processes of risk assessment, seeking and evaluating alternative solutions, contract award, delivery of and payment for the property and/or services and, where relevant, the ongoing management of a contract and consideration of options related to the contract. Procurement also extends to the ultimate disposal of property at the end of its useful life (Waters, 2004). Public procurement systems are central to the effectiveness of development expenditure. Budgets get translated into services largely through the governments' purchases of goods, services and works. It is estimated that 18.42% of the world's Gross Domestic Product (GDP) is spent through public procurement (Mahmood, 2010). It is further estimated that public procurement accounts for 9%–13% of the GDP of the economies of developing countries. In Angola, public procurement accounts for 58%, it accounts for 70% of public spending (Thai, 2001), 40% in Malawi, , 58% in Angola, 70% of Uganda's public spending (Basheka and Bisangabasaija, 2010), and 60% in Kenya (Akech, 2005). But the area of procurement is increasingly prone to internal factors (Trionfetti, 2000). The study aims at evaluating supply chain linkages of procurement performance in public sector with specific reference to County government, Kenya.

2. RESEARCH OBJECTIVES

General Objective:

The general objective of the study was to determine effect of supply chain linkages on the procurement performance of county government in North rift region

Specific Objective:

The specific objectives of this study were:

a) To determine the effect of customer linkages on procurement performance

b) To establish the effect of supplier linkages on procurement performance

c) To determine the effect of internal linkages on procurement performance

d) compliance and e- procurement on supply chain reliability

3. RESEARCH HYPOTHESES

This study was guided by the following research hypotheses:

a) $\mathbf{H}_{O1:}$ Customer linkages has no significant effect on procurement performance

b) $\mathbf{H}_{O2:}$ Supplier linkages has no significant effect on procurement performance

c) $\mathbf{H}_{O3:}$ Internal linkages has no significant effect on procurement performance

4. JUSTIFICATION OF STUDY

This research contributes to the procurement management literatures by explicitly raising issues of supply chain linkages, by empirically validating the conceptual framework of supply chain linkages and procurement performance. The investors and managers in the county governments will benefit from insights into what it takes the industry to thrive and how to leverage the supply chain management practices in the country to their advantage. Government Institutions and industry associations like Horticultural Crops Development Authority (HCDA), Kenya Plant Health Inspectorate Services (KEPHIS), Fresh Produce Exporters Association of Kenya (FPEAK) and Kenya Flower Council (KFC) will find the information useful by identifying the weaknesses in procurement performance in the floriculture industry and come up with possible solutions that will enhance the Kenyan county governments. The study stands to benefit future researchers, scholars and academicians interested in the subject of supply chain management and indeed contribute to the body of knowledge in the subject.

5. LITERATURE REVIEW

This study is based on the following theories;

Transaction Cost Economics Theory:

The transaction cost economics theory, developed by Coase (1937) has been used to study outsourcing of firm activities. This theory has received attention by the outsourcing literature since it explains why some activities are retained inside firm boundaries while others are outsourced. Williamson's concept argues that when the transaction costs for an activity is lower than the costs of production within the firm, it would be preferably outsourced. According to Williamson (1979), activities should be retained within organizational boundaries under conditions of uncertainty, asset specificity and continual reconstructing. Transaction costs are composed of many different costs such as searching and negotiating with partners and cost of monitoring and enforcing the contract (Agarwal and Ramaswami, 1992; Erramilli and Rao, 1993; Makino and Neupert, 2000). This theory suggests that only when transaction costs of market exchange are greater than the benefits of externalization then internalized operations are preferred (Brouthers, 2002; Hennart, 1991). Undoubtedly, transaction cost economics (TCE) (Williamson, 1975) has made key contributions to the understanding of make-or-buy decisions, although its limitations have also been highlighted (Barney, 1999; Marshall *et al*., 2007). Asset specificity has been shown to be a key determinant of make-or-buy decisions (Leiblein, 2003; Walker and Weber, 1984; Williamson, 1981). The lower the asset specificity of an activity, the easier it becomes to write complete contracts and the more likely is outsourcing. Uncertainty has similarly been identified as a determinant of the make-or-buy decision (Williamson, 1981). Firm capabilities and resources are a firm-level indicator of what can and cannot usefully be outsourced (Barney, 1999).

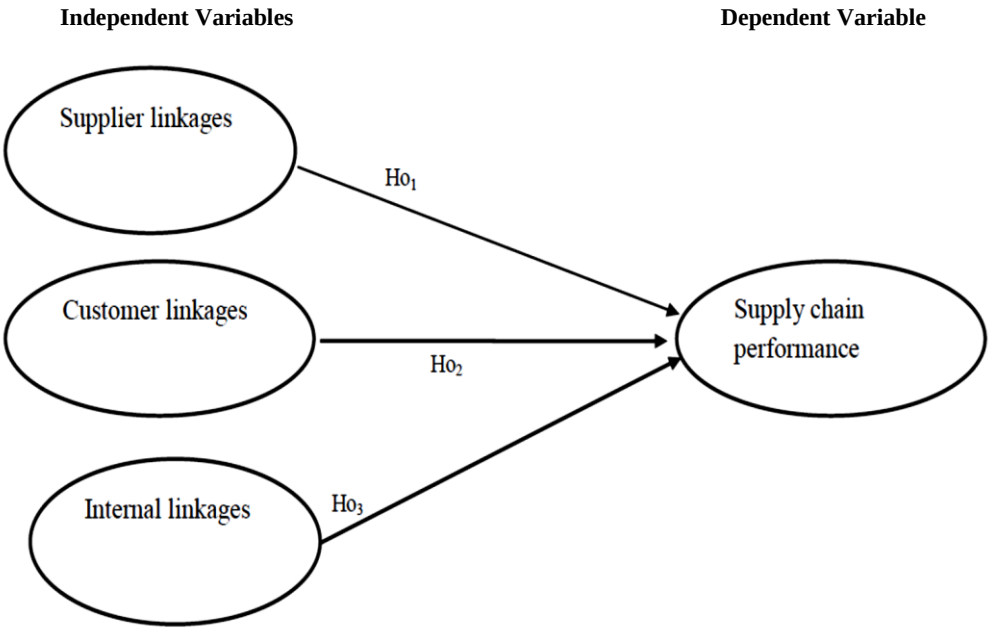
Resources Based View theory:

According to Barney (1991) the resource based view (RBV) examines the link between a firm's internal characteristics and performance. As the basis for a competitive advantage, the resource based view considers the application of a bundle of tangible and intangible resources (Penrose, 1959; Wernerfelt, 1984). In order to make to competitive advantage sustainable, resources are required to be heterogeneous and immobile (Barney, 1991; Peteraf, 1993). Moreover, to create a competitive advantage, resource need to fulfil the criteria of being valuable, rare, in-imitable and non-substitutable (Barney, 1991). Building on this, the resource based view enable firms to determine their core competences which are also critical for the creation of the latter (Espino-Rodríguez &Padrón-Robaina, 2006). Feng *et al*. (2010) investigated the impact of participation with suppliers and customers on competitive advantage as a matter of external integration with concentration on resource-based view (RBV) and knowledge-based view (RBV). They mention based on resource based view and knowledge based view that participation with suppliers can help the company to create value in process of cost management.

Cox theory:

Global Association of Research (2011) posits that this is a stepladder of external and internal relationships. Tran & Lau (2013) argues that firms are increasingly entering into long-term, high dependency exchanges as a result of: increased demand for quality goods, demand for variability of goods, demand for constant innovation, severe price competition and increasing technology costs. Matevž, & Maja (2013) established that these changes are forcing firms to enter into complex relationships with other firms in order to remain competitive. Examples of such relationships are: relational contracting, network organizations, strategic alliances and horizontal co-operation. Morrison & Wilhelm (2015) established that the increase in number and complexity of these exchanges in an environment is characterized by uncertainty that has led to the increased interest in the use of obligation contracting. Kokko, Söderlund & Tingvall (2014) established that more knowledge-based products and information-based modes of production necessitate the sharing of strategically sensitive data. Hence the rise of importance of obligation contracting is not only due to the increased number of complex exchanges in uncertain environments, but also the very nature of the goods being exchanged. Yenidogan (2014) established that the tendency of original equipment manufacturers to develop closer and deeply committed ties with their component suppliers increasingly reduces the traditional, adversarial tone of the automaker-supplier relationships (known as arm's length transactional style of the US firms). Gelderman, Caniëls, & Fleuren (2011) found out that the diffusion of voice strategy in building relationships allows automakers opportunities to earn greater rents through access to complementary skills and knowledge and hence changes the cost-benefit calculus of the transaction cost -perspective in the case of a stream of potentially appropriable quasi-rents. Jaakkola, Möller, Parvinen, Evanschitzky, & Mühlbacher (2010) argue that the bonding effect of relationship-specific investments based on RBV can be one of the most important determinants of buyer-supplier relationships. Rašković, Brenčič, Fransoo, & Mörec (2012) established that business networks, supply chains (networks) and buyer-supplier relationships are all types of business relationships "raging from a web of connections to a dyadic relationship" with often blurred boundaries..

6. CONCEPTUAL FRAMEWORK



7. REVIEW OF VARIABLES

Supplier linkages:

Supply chain is a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer (Anna, 2006). It is also defined as a set of linkages providing goods and services to end users and to intermediate customers (Chartered Institute of Purchasing & Supply, 2009). It is a complex dynamic supply and demand network which is also regarded as part of the overall value chain, which has both demand and supply components that need to be balanced dynamically at levels of uncertainty and risk, and which focuses on optimizing net value added at each linkage, as well as in total to the end user (Wieland &Wallenburg, 2011). A linkage is defined as a

connection or relationship between two or more parts; a part that connects two or more things (Merriam Webster, 2013). According to Business Dictionary (2013) linkage is defined as relationship and interaction between tasks, departments and organizations that promote flow of information, ideas and linkages in achievement of shared objectives. Shared objective in supply chains is customer satisfaction through timely delivery of the right product in the right condition (Coyle, Bardi& Langley, 2003).

Upstream linkages consist of suppliers and producers. Suppliers include suppliers who supply materials and other goods required by producers. The upstream linkages are important in ensuring material flow from suppliers and their upstream suppliers. In their pursuit of improved operational performance, organizations in supply chains have sought to develop external information-based linkages with their customers and vendors. It has been argued that effective Supply Chain Management (SCM) is a source of potentially sustainable competitive advantage for organizations (Emmelhainz and Gardner, 1999; Mentzer, DeWitt, Keebler, Min, Nix, Smith and Zacharia, 2001).SCM seeks improved performance through effective use of resources and capabilities via the development of internal and external linkages in order to create a seamlessly coordinated supply chain, thus elevating inter-firm competition to inter-supply chain competition (Ketchen and Guinipero,2004; Ketchen and Hult, 2007). As part of their continued efforts to become more coordinated (Lummus and Vokurka, 1999; Lambert and Cooper, 2000; Lee and Whang, 2000; Mentzer*et al.* 2001; Moberg, Cutler, Gross and Speh, 2002; Holweg and Pil, 2008), and thus improve their performance, many firms have over the last decade focused their efforts to develop external, i.e., inter-organizational linkages with customers and suppliers (Shore and Venkatachalam, 2003; Fiala, 2005; Barratt and Oke, 2007). A number of author's have suggested that these closer information-based linkages are critical to effective supply chain management (Speckman, Kamauff and Myhr, 1998; Moberg*et al.* 2002; Whipple, Frankel, Daugherty, 2002; Barratt and Oke, 2007).Supply chain linkages include integration with customers and suppliers, and internal linkages.

Customer linkages:

Supplier integration is defined as "The long-term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits" (Li *et al*., 2004). Supplier integration characterized by various aspects and activities such as information sharing, coordination, trust, shared technology, integrated processes, long-term contracts, assisting suppliers to improve production processes, fostering quality improvements, investing in supplier's assets, including suppliers in new product development, improving supplier's overall capabilities, risk and reward sharing, and shared gains from development efforts (Dyer *et al*., 1998; Echtelt*et al*., 2008). As such, integration results in improved decision making, enhanced knowledge sharing, aligned capabilities, built learning routines, and increased performance of SC partners (Echtelt*et al*., 2008). Trust enhances the degree of commitment between the two parties, reduces transactional costs, improves cooperation, enhances the satisfaction of the two parties, decreases the formal contracts, and reduces conflicts (Sahay, 2003).

Internal linkages:

Internal integration is defined as "the degree to which a manufacturer structures its own organizational strategies, practices and processes into collaborative, synchronized processes, in order to fulfill its customers' requirements and efficiently interact with its suppliers" (Flynn *et al*., 2010). Internal integration is an essential practice that should be implemented prior to moving to achieve external integration (Vanichchinchai & Igel, 2009). Internal integration deals with integrating and linking information among different organizational departments, creating an easy access to inventory information, developing an easy accessed integrated database that encompasses main operational data, integrating production processes using advanced information systems, and linking production and marketing departments using computerized planning systems (Lee *et al*., 2007). Customer integration is defined as "demand management practices through long-term customer relationship, satisfaction improvement, and complaint management" (Tan *et al*., 1998). The fundamental aspect of customer relationship is the focus on key customers to understand their needs and requirements and to satisfy them (Sheth*et al*., 2000). Customer integration includes different activities and practices such as integrated problem-solving initiatives, direct customer contacts, managing customer complaints, increasing customer satisfaction, and establishing long-range relations with customers (Boulding*et al*., 2005; Sousa, 2003; Tan *et al*., 1998). Customer integration is expected to yield different benefits to organizations. Such benefits include the ability to differentiate products from competitors, increased market share and retention of profitable customers, improved customer loyalty, quickly resolving potential problems, shared knowledge and expertise concerning new technologies, deep understanding of customer needs, and rapid responses to customers (Magretta, 1998; Wasti& Jeffrey, 1999).

Supply chain performance:

Procurement performance is a combination of processes, functions, activities, relationships and pathways along which products, services, information and financial transactions move in from supplier to customer (Gattorna 2006, Simchi-Levi *et al*., 2008).There are a lot of arguments about procurement performance measurement, and it has no consistent opinion until now. The most notable perceived benefit from participating in the e-marketplace is lower unit cost of procurement but there are more contributions when firms delivered e-procurement in supply chain (Eng, 2004). Tan *et al.,* (2002) believed that short and reliable order cycles, and the ability to fill entire orders are critical elements to customer service. And they measure business performance with senior management's perceptions of a firm's performance in comparison to that of major competitors. And a total of six dimensions of performance were considered in their study, including market share, return on assets, average selling price, overall product quality, overall competitive position, and overall customer service levels. From the SCM practices of Tan *et al.,* (2002) time-based issues such as on-time deliveries and reducing response time received the highest mean score. They also found that price/cost may not be a primary factor in selecting supplies for firms and quality, and service levels, on-time delivery, quick response and volume flexibility are critical factors in selecting suppliers and its influence on procurement performance. However, more scholars have other more comprehensive thoughts regarding procurement performance. Eng (2004) considered the perceived contributions of e-marketplace to SCM are examined in three dimensions which include: unit cost reduction, increased efficiency and streamlined operations. Croon & Johnson (2003) identified three areas of internal service performance. They are cost efficiency, process conformance and internal satisfaction. In cost conformance we use the economic value added also called EVA. The metrics and measures are discussed in the context of the following supply chain activities or processes and they include: planning, sourcing, making/assembling and delivering goods or services to customers (Gunasekaran*et al.,* 2001). The reduction in order cycle time leads to reduction in supply chain response time and as such is an important performance measure and source of competitive advantage and on the opinion of the researcher, this can only be enhanced by an integrated supply chain function which has electronic procurement as an element and it directly interacts with customer service in determining competitiveness. Traditionally supplier performance measures were based on price variation which is outdated and rejects on receipt and on time delivery. For many years, the selection of suppliers and product choice were mainly based on price competition with less attention afforded to other criteria like quality and reliability.

The evaluation of suppliers in the context of the supply chain efficiency, flow, linkages, responsiveness and customer satisfaction involves measures important at the strategic, operational and tactical level. Strategic level measures include lead time against whole industry operations, quality level, cost saving initiatives and supplier pricing against market. Tactical level measures include the efficiency of purchase order cycle time at departmental levels, booking in procedures, cash flow, quality assurance methodology and capacity flexibility. Operational level measures include ability in day to day technical representation, adherence to developed schedule, ability to avoid complaints and achievement of defect free deliveries (Croon, 2003).

8. RESEARCH METHODOLOGY

Research Design:

The study adopted the explanatory research design. Orodho (2003) explanatory research design analyses the cause-effect relationship between two or more variables. Hence the design was appropriate to the study because the research is a cause-effect relationship. Explanatory research focuses on why questions and also establishes causal relationships.

Target Population:

Population is an entire group of individuals, events or objects with some common observable characteristics (Banerjee, 2010). The study unit of analysis was 354 employees in procurement departments drawn from 6 county governments in north rift. The study conducted a census survey on target population 6 county governments in north rift. It provides a true measure of the population (no sampling error) and benchmark data may be obtained for future studies.

Sample Size and Sampling Technique:

The researcher used stratified sampling technique to select employees from the various departments. This was the sample. Stratified sampling techniques identify subgroups in the population and their proportions and selects from each subgroup to form a sample (Oso and Owen, 2005). The sample size for this study will be obtained using (Mora & Kloet, 2010) formula for finite population as follows;

$$n = \frac{N}{\left(1 + Ne^2\right)}$$

Where,

n = the sample size

N = the size of population

e= the error of 5 percentage points

$$n = \frac{354}{\left(1 + 354 \times 0.05^2\right)} = 188$$

The study will adopt a stratified sampling in which all samples in the same strata will be classified in the same category.

Data Collection Methods:

Before the actual data collection exercise takes place, the researcher undertook preliminary survey within the county governments in order to familiarize with the study area and also make appointments with the identified persons. During the appointment day, the researcher distributed the questionnaires to the procurement employees and clients and collected them once they were filled on the same day but the researcher worked together with the respondents to help them answer the questions in the questionnaire as some of the respondents especially the clients and the workers may not understand all the questions. The questionnaires were administered on the basis of 'drop and pick later' or pick immediately depending on the availability of the respondents to ensure high rate of returns. The researcher administered the questionnaires in person since there was need for more explanation to the respondents owing to nature and sensitivity of this research. Structured questionnaires were used to collect data for dependent and independent variables. Five point Likert scales were used as a measurement level of the variables (Pizam 1999).

The researcher used questionnaires as a tool for data collection and the questionnaires consist of only closed ended questionnaires because they are easier to administer and analyze since each item is followed by an alternative answer. A self-administered questionnaire was accompanied by a covering letter, which explain the purpose of the study and assures respondents strict confidentiality. Closed ended offer the respondent a list of responses, any of which they can choose. The list of responses was defined clearly and meaningfully by research assistants. The research was based on the collection of primary and secondary**.** Primary data was gathered from respondents using the questionnaires as data collection instruments. However, secondary data was used to depict pertinent issues which existed before the study was conducted; it was used as a basis to confirm and contrast further findings of the study. Secondary sources of data were journals, conference reviews, books and magazine articles

Pilot Test:

According to McMillan and Schumacher (1993) validity is quality attributed to proposition or measures of the degree to which they conform to establish knowledge or truth. An attitude scale is considered valid, for example, to the degree to which its results conform to other measures of possession of the attitude. In determining the validity of the instrument the researcher discussed the items in the instrument with the supervisors, lecturers from the department and colleagues. Advice given by these people helped the researcher to determine the validity of the research instrument. The advice includes suggestions, clarifications and other inputs. This suggestion was used in making necessary changes. The researcher conducted a pilot test of the study tools on procurement employees of county governments which were not included in the sample. Pilot testing was conducted in an attempt to test the reliability and validity of the research tools. The research tools were administered to the respondents who were allowed ample time to respond. The data was tested for reliability to establish issues such as data sources, methods of data collection, time of collection, presence of any bias and the level of accuracy. The test for reliability established the extent to which results was consistent over time. Reliability test was carried out to test the consistency of the research tools with a view of correcting them. To test for reliability, the researcher used the internal consistency technique by employing Cronbach Alpha value of α>0.7test for testing the research tools (Gaur and Gaur 2009) where the reliability results for internal linkages was (α=0.931), followed by procurement performance (α =0.909), then customer linkage (α =0.846) and finally supply linkages (α =0.806). Reliability test was carried out to test the consistency of the research tools with a view of correcting them.

9. CONCLUSION

	Unstandardized Coefficients			Standardized Coefficients		Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	0.747	0.196		3.812	0.000		
Customer linkages	0.184	0.051	0.186	3.643	0.000	0.594	1.684
Supplier linkages	0.311	0.049	0.357	6.294	0.000	0.482	2.077
Internal linkages	0.326	0.058	0.294	5.598	0.000	0.563	1.778
R Square	0.523						
Adjusted R Square	0.518						
Durbin-Watson	1.695						
F	112.225						
Sig.	.000						

The study recommends that;

(a) Therefore, there is need for firm managers to understand and find ways to effectively manage these interactions.

(b) There is also need for the institution to carry out management of customer relationships and share resources such as facilities with the customers.

(c) Also, a joint effort by the institution and its customers in product development is also utmost necessary.

(d) Further, in order to heighten procurement performance, both customers and the institution need to jointly plan production and identify opportunities for new markets.

REFERENCES

[1] Abdifatah, H. M. (2012, July). Supply Chain Management Practices among Humanitarian Organisations in Kenya. Master Project . Nairobi: University of Nairobi.

[2] Acemoglu, D., V. M. Carvalho, A. Ozdaglar, and A. Tahbaz-Salehi (2012): "Supplement to 'The Network Origins of Aggregate Fluctuations'," Econometrica Supplemental Material, 80, http://www.econometricsociety.org/ecta/ Supmat/ 9623_data_and_programs.zip. [1997]

[3] Aviv, Y., 2001. The effect of collaborative forecasting on procurement performance. Management Science 47 (10), 1326-1343.

[4] Banerjee A, Chaudhury S. (2010). Statistics without tears: Populations and samples. Ind Psychiatry J

[5] Barratt, M.A., Oke, A. 2007. Antecedents of supply chain visibility in retail supply chains: A resource based theory perspective. Journal of Operations Management 25 (6) 1217–1233.

[6] Barratt, M.A., Oke, A. 2007. Antecedents of supply chain visibility in retail supply chains: A resource-based theory perspective. Journal of Operations Management 25 (6) 1217–1233

[7] Bartlett, P.A., Julien, D.M., and Baines, T.S. 2007. Improving procurement performance through improved visibility. International Journal of Logistics Management, 18 (2) 294-313.

[8] Berger, P.D., and Zeng, A.Z. (2006), 'Single versus Multiple Sourcing in the Presence of Risks', *Journal of the Operational Research Society*, 57, 250–261.

[9] Campbell, J., &Stasser, G. (2006).The influence of time and task demonstrability on decision-making in computer-mediated and face-to-face groups. Small Group Research, 37,271–294.

[10] Cox, A. (2004). The art of the possible: relationship management in power regimes and supply Chains. Supply Chain Management: An International Journal, 9(5), 346–356. http://dx.doi.org/10.1108/13598540410560739

[11] Echtelt V, F. E. A., Wynstra, F., van Weele, A. J., and Duysters, G. (2008). "Managing Supplier Involvement in New Product Development: A Multiple-Case Study." *Journal of Product Innovation Management*, 25(2), 180-201.

[12] Fairtrade International (2012). Fairtrade Standards for Governments and Plants. Retrieved from http://www. fairtrade.net/ product-standards.html

[13] Feng, T., Sun, L and Zhang, Y. (2010). The effects of customer and supplier involvement on competitive advantage: An empirical study in China. Industrial Marketing Management, 39, 1384–1394. http://dx.doi.org/10.1016/j. indmarman. 2010.04.006

[14] Flynn, B. B, Huo, B and Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. Journal of Operations Management, 28, 58–71. http://dx.doi.org/10.1016/ j.jom.2009. 06.001

[15] Gattorna J. 2006. Living supply chains. How to mobilize the enterprise around delivering what your customer want. Prentice Hall

[16] Gaur, A. S. & Gaur S. S. (2009) Statistical methods for practice and research: A guide to data analysis using SPSS, Sage Publications, 2nd Edition

[17] Gavirneni, S., Kapuscinski, R., Tayur, S. 1999. Value of information in capacitated supply chains. Management Science 45 (1) 16-24

[18] Gunasekaran A., Patel C., McGaughey R.E. 2004. A framework for procurement performance measurement. International Journal of Production Economics 87(3): 333–347

[19] Hartline, M.D, Maxham III, J.G., & McKee, D.O. (2000). Corridors of influence in the dissemination of customer-oriented strategy to customer contact service employees. *Journal of Marketing* , 64,35-50

[20] Hertzel, Michael G., Zhi Li, Micah S. Officer, and Kimberly J. Rodgers (2008), Inter-firm linkages and the wealth effects of financial distress along the supply chain. Journal of Financial Economics, 87 (2): 374-387.

[21] Holweg, M., Pil, F.K. 2008. Theoretical perspectives on the coordination of supply chains. Journal of Operations Management 26 (3) 389–406

[22] Hosseini Baharanchi, S.R. (2009). Investigation of the Impact of Supply Chain Integration on Product Innovation and Quality. *Transaction E: Industrial Engineering*, 16 (1), 81-89

[23] Huang, Z., Gangopadhyay, A., 2004. A simulation study of supply chain management to measure the impact of information sharing. Information Resources Management Journal 17 (3), 20-31

[24] Kangogo (2013) *Supply Chain Distribution in Floriculture Industry in Kenya: A Case Study of Equator Flower Ltd.* Jomo Kenyatta University of Agriculture and Technology

[25] Kelly, B. Herskovic, B., Lustig, H. and van Nieuwerburgh, S. 2014, "The Common Factor in Idiosyncratic Volatility: Quantitative Asset Pricing Implications," Fama-Miller Working Paper. Chicago Booth Research Paper No. 12-54

[26] Kenya Flower Council "Kenya Governments". (2014) http:///www.kenyagovernments.co.ke/memebers/ member-ship. php

[27] Ketchen, D. J., &Hult, G. T. M. (2007). Bridging organization theory and supply chain management: The case of best value supply chains. *Journal of Operations Management*. 25(2), 573. http://dx.doi.org/510.1016/j.jom.2006. 1005.1010.

[28] Kosgey K, E (2011). Quality management along the supply chain in Kenya's horticulture industry. http:// erepository.uonbi.ac.ke:8080/handle/123456789/6151

[29] Kratochvil, M.; Carson, C. (2005) Growing Modular: Mass Customization of Complex Products, Services And Software, Springer, Berlin

[30] Kray, L.J. &Galinsky, A.D. (2004). The de-biasing effect of counterfactual mind-sets: increasing the search for disconfirmatory information in group decisions. *Organizational behaviour and Human Decision Processes*, 91, 69-81.

[31] Lee, C. W., Kwon, I. G., & Severance, D. (2007). Relationship between procurement performance and degree of linkage among supplier, internal integration, and customer. Supply Chain Management: An International Journal, 12(6), 444–452. http://dx.doi.org/10.1108/13598540710826371.

[32] Marshall, D, McIvor, R., and Lamming, R. 2007. Influences and outcomes of outsourcing: Insights from the telecommunications industry. *Journal of Purchasing and Supply Management*, 13(4), 245-260

[33] Mattila, A., &Enz, C. 2002. The role of emotions in service encounters. *Journal of Service Research*, 4: 268-277

[34] McMillan, J. H. & Schumacher, S. (1993). Research in education: A conceptual understanding. New York: HaprerCollins

[35] Merriam Webster, (2013, 11). Supply chain Linkages. StudyMode.com. Retrieved 11, 2015, from http://www.studymode.com/essays/Supply-Chain-Linkages-43150201.html

[36] Moenga, K O. (2011). Supply chain management practices and challenges for the small scale tea sector in Kenya. URI: http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/14489

[37] Oghazi, P. (2009). *An Empirical study of Swedish Manufacturing Firms' Enterprise Systems Adoption. Supply Chain Integration, Competition Capability and Performance. Doctoral Thesis*. Lulea University of Technology, Swedish, 1-203.

[38] Omwenga, L. (2007). *Kenya's Competitiveness in the Floriculture Industry*. Porter's competitive advantage of nation's model.

[39] Orodho, A. J. (2003). Essentials of Educational and Social Sciences Research Method. Nairobi: Masola Publishers

[40] Owuor, N. A. (2012). Higher education in Kenya: The rising tension between quantity and quality in the post-massification period. Higher Education Studies, 2(4), 126-136.

[41] Patnayakuni, R., A. Rai, N. Seth. 2006. Relational antecedents of information flow integration for supply chain coordination. J. Management Inform. Systems 23(1) 13–49

[42] Rodrigues, A.M., Stank, T.P. and Lynch, D.F. (2004), "Linking strategy, structure, process, and performance in integrated logistics", Journal of Business Logistics, Vol. 25 No. 2, pp. 65-94

[43] Simchi-Levi D, Kaminsky P, Simchi-Levi E (2008) Designing and Managing the Supply Chain: concepts, strategies, and case studies. McGraw-Hill/Irwin, Boston.

[44] Sufian M. Qrunfleh (2010) Alignment of Information Systems with Supply Chains: Impacts on Procurement performance and Organizational Performance: *published PhD thesis.* University of Toledo

[45] Swink, M., Narasimhan, R., and Wang, C. (2007). Managing beyond the factory walls: Effects of four types of strategic integration on manufacturing plant performance. *Journal of Operations Management*. 25, 148–164. http://dx.doi.org/ 10.1016/j.jom.2006.02.006

[46] The Chartered Institute of Purchasing and Supply CIPS (2009). Workshop on Public Procurement. Professionalization and Certification in Public Procurement (Great Britain)

[47] Vanichchinchai, A., &Igel, B. (2009). Total quality management and supply chain management: Similarities and differences. The TQM Journal, 21(3), 249–260. http://dx.doi.org/10.1108/17542730910953022

[48] Whipple, Judith Schmitz, Robert Frankel, and Patricia J. Daugherty (2002), "Information Support for Alliances: Performance Implications," Journal of Business Logistics, Vol. 23, No. 2, pp. 67-82.

[49] Wieland A, Wallenburg C. M., (2011): *Supply-Chain-Management in stürmischenZeiten*. Berlin

[50] Wilson, R. (2004). *15th Annual State of Logistics Report*. Council of Supply Chain Management Professionals. Available online: http://www.cscmp.org/.

[51] Wisner, J.D. (2003), "A structural equation model of supply chain management strategies and firm performance", Journal of Business Logistics, Vol. 24 No. 1, pp. 1-26

[52] World Bank (2010). *The Kenya Floriculture Industry*. NY: World Bank.