INFLUENCE OF SUPPLIER MANAGEMENT PRACTICES ON SUPPLY CHAIN PERFORMANCE IN COUNTY GOVERNMENTS OF KENYA: A CASE OF BUSIA COUNTY

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ABSTRACT

The aim of the study was to establish the influence of supplier management practices on supply chain performance in the county governments in Kenya. Descriptive research design was used for the study. The target population of this study was 86 procurement related personnel in Busia County government. The quantitative data was entered into SPSS for analysis. Both quantitative and qualitative data analysis techniques were used. Quantitative data was analyzed using descriptive statistics while qualitative data was analyzed by the use of content analysis. According to the model summary, the coefficient of determination (R²) was used to measure how far the regression model’s ability to explain the variation of the independent variables. It was notable that there exist a relationship between independent variables and dependent variable with a correlation coefficient of 0.898. The coefficient of determination was between zero and one. The data showed that the high R square was 0.806. It showed that the independent variables in the study were able to explain 80.60% variation in the supply chain performance in the county government while the remaining 19.40% was explained by the variables or other aspects outside the model. This showed that the model had a good fit since the value was above 60%. The study recommended that there was need to have adequate communication with the suppliers, timely payment of the suppliers to enhance supply chain performance with the county government. The study recommended for county government to offer adequate technical support to the suppliers in order to increase fulfillment. The county government should check for a training program to enhance quality of procured goods. There is need to have supplier evaluations being carried out for effective supply chain performance in the county governments of Kenya.

Key Words: Supplier Communication, Supplier Payment, Supplier Development, Supplier Evaluation, Supply Chain Performance
INTRODUCTION

Worldwide due to increased demand for better services in the public sector, there is need to effectively manage the public supply chains. Interrelationships between the partners in the supply chain needs to be managed to enhance performance, enhances continuity and shared sense of value within the whole organization (McAdam et al, 2005). In today’s highly competitive environment, supply chain performance is very vital for the survival of firms because customers judge the performance of firms basing on their supply chain performance 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).

Supply chain performance in devolved governments is one of the major economic activities of any government. These include: redistributing income through taxation and spending, provision of public goods and services, and providing the legal framework for economic activities to flourish (OECD, 2007). In order to come up with a suitable county government procurement practice that can be compared across various public organizations, it has become necessary to design a formal government procurement codes that contain formal procurement rules and regulations across a number of countries both in the developed and developing nations (Teelken & Smeenk, 2013). For the poor developing countries, especially in the sub-Saharan Africa, the devolved county government procurement regulations and procedures have been one of the reform areas since early 2006 (Thai, 2010; OECD, 2009).

In many African countries, public procurement accounts for a substantial part of fiscal expenditures, making sound procurement methods central not only for sound public financial management but also for inclusive growth (Zuzana 2012). In South Africa, Reforms in the public procurement were initiated to promote the principles of good governance, and the National Treasury introduced a preference system to address socio-economic objectives. The reform processes were due to inconsistency in policy application and lack of accountability and supportive structures as well as fragmented processes (Kakwezi and Nyeko, 2010). A uniform implementation approach to procurement was required due to a research study on opportunities for reform processes in the South African government conducted by the Joint Country Assessment Review (CPAR) and the World Bank in 2001. The deficiencies and fragmentations in governance, interpretation and implementation of the Preferential Procurement Policy Framework Act (PPPFA) Act No 5 of 2000, resulted in the introduction of Supply Chain Management (SCM) in the public sector as a policy tool (Ambe, 2012).

In Kenya, the Public Procurement and Disposal Act 2015 outlined the process through which the county governments and National government operates and spends public money (Rotich, 2015). It is estimated that in Kenya public procurement accounts for over 10% of the Gross Domestic Product (GDP), making it a large market for suppliers and contractors (Cousins, 2008). With this amount of resource, public procurement tops the list of sectors with high opportunities for corruption (International Transparency, 2010). This therefore means that every effort should be made to erect safeguards to check against corrupt malpractices in public procurement (PPOA, 2009). It is for this reason that there is a need to assess both the potential and current suppliers on one on one basis to improve their performance and capabilities for the benefit of buying organization (CIPS Knowledge, 2014).

Statement of the Problem

It is estimated that weaknesses in public procurement, including vulnerability to corruption, are a global problem with approximately $400 billion (Kshs 34.9 trillion) reported as being lost to
bribery and corruption in procurement globally (Transparency International, 2014). In Kenya, the Public Procurement and Disposal Act seeks among other things to promote competition, promote the integrity and fairness of procurement and disposal procedures, increase transparency and accountability in the tendering process, and increase public confidence in those procedures (Public Procurement Oversight Authority, 2009). Report by PPOA indicates that up to 30% of procurement inefficiencies in the public sector in Kenya are attributed to supplier’s performance issues. There is therefore concern as to what can be done to reduce supplier related procurement issues. One of the ways through which organizations strive to reduce supplier related inefficiencies is through evaluation of suppliers. In ideal situations, supplier evaluation is expected to positively influence procurement performance. The question that arises in this context constitutes whether the supplier management adopted in the procurement processes has implications on the supply chain performance. More than 50% of the corruption cases alleged in the devolved governments are related to supplier relations adopted (Owalla, 2016). The poor procurement performance is a common problem in the many county governments with an immeasurable cost spiraling to over USD 10 million (Ksh, 85 billion) annually. Understanding these impacts is crucial in the adoption of efficient and effective supplier management strategies (Cullen, Bernon & Grost, 2015). In Kenya, the central government and county government spends about Kshs. 234 billion per year on procurement. However on annual bases, the national government losses close to Ksh. 71 billion about 17 per cent of the national budget due poor supplier relations used such as inflated procurement quotations (KISM 2014).

The inefficiency and ineptness of overall selection and implementation of supplier management contributes to loss of over Ksh.50 million annually in the county governments (Tom 2014). According to Victor (2012), procurement expenditure could be minimized through proper supplier management. It’s hence against this background that the study sought to establish the influence of supplier relationship management on supply chain performance in the county governments in Kenya.

**Objectives of the Study**
The aim of the study was to establish the influence of supplier management practices on supply chain performance in the county governments of Kenya. The specific objectives were:-
- To establish how supplier communication influence supply chain performance in the county governments of Kenya
- To determine how supplier payment influence supply chain performance in the county governments of Kenya
- To examine how supplier development influence supply chain performance in the county governments of Kenya
- To find out how supplier evaluation influence supply chain performance in the county governments of Kenya

**LITERATURE REVIEW**

**Theoretical Review**

**Rough Set Theory**

This theory guided the study in investigating the relationship between supplier development and supply chain performance in the county governments in Kenya. Rough set theory was proposed by Pawlak in 1982 as a method which classifies objects into similarity classes (clusters) containing objects that are indiscernible with respect to previous occurrences and knowledge. According to Bai & Sarkis (2009) Rough set theory allows for distillation of a larger set of suppliers into a smaller set of candidate preferred suppliers, and eventually the selection of preferred supplier.

**Grey Systems Theory**

To investigate the influence of supplier evaluation on supply chain performance in the county governments in Kenya, the study will be based on Grey Systems Theory. According to Grey System Theory, in a practical business environment, in most
instances; supplier selection takes place in an environment with less than perfect information and as such, there is some level of uncertainty in the decisions related to supplier selection. In such an environment, it is important to develop certain indicators or criteria; qualitative or quantitative that the supplier can be subjected to before selection. From this theory, the grey correlation analysis model with seven progressive steps was developed (Zou, 2008). These steps include; grey generation aimed at gathering information on grey aspects, grey modeling done to establish a set of grey variation equations and grey differential equations, grey prediction aimed at achieving a qualitative prediction, grey decision, grey relational analysis and grey control (Tsai, 2003).

**Lean Competence Model**

The Lean Supplier Competence Model was developed by Marks (2007). Through the model, a gap analysis can be charted and an action plan drawn to bridge the disparity in the organization. The model evaluates the supplier against the five categories that supports the Lean techniques of Kaizen – continuous improvement. The Supplier Competency Model explains how organizations interact in the five areas of competency where there is varying degrees of performance ultimately to achieve lean organizational operations. Each category is broken down into specific “behaviors” or ways the company and the supplier interact with each other. These behaviors are rated from a “1” as “Less Lean” to a rating of a "5" as “More Lean.” This measurement allows a company to determine placement of business based on common values and common strategic goals. Using this model, as the business philosophies of the company and the supply base draw together to eliminate waste, the natural result is a reduction of cost to the supply chain and to the ultimate customer (Xu, 2007). This model is relevant in supplier selection sincerity advocates for working together. It is particularly important for an organization that is intending to foster lasting supplier development and those intending to build strategic partnership with suppliers. The sourcing organizations evaluate suppliers based on certain competence parameters and select the one that it would best work together with (Kitheka, 2013).

**Conceptual Framework**

![Conceptual Framework](image)

**Empirical Review**

**Supplier Communication**
- Information sharing
- Channels of communication
- Data acquisition

**Supplier Development**
- Benchmarking
- Product development
- Training
- Quality improvement

**Supplier Payment**
- Supplier pricing
- Timely payments
- Quantity discounts

**Supplier Evaluation**
- Quality commitment
- Financial stability
- Competence

**Independent Variables**

<table>
<thead>
<tr>
<th>Supplier Communication</th>
<th>Supply Chain Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information sharing</td>
<td>Reduction of costs</td>
</tr>
<tr>
<td>Channels of communication</td>
<td>Customer satisfaction</td>
</tr>
<tr>
<td>Data acquisition</td>
<td>Quality of goods and services</td>
</tr>
</tbody>
</table>

**Dependent Variable**

- Reduced lead time

**Figure 1: Conceptual Framework**

**Source: Author (2018)**

**Ullah (2012) examined the role of buyer-supplier relationship and trust in the organizational performance. The essence of strong relationship between buyer and supplier is trust, which in turn affects the supplier performance and consequently the organizational performance.**

**Design/methodology/approach: This study uses correlation and regression to analyze a set of data collected from the survey of 54 Indian manufacturing organizations. Findings: Results demonstrate that face to face communication and fair treatment of supplier by buyer is positively related to development of trust and is positively related to the organizational performance.**
Supplier Payment
In January 2015, the National Audit Office of the United Kingdom (NAO: UK) published a report (Paying Government Suppliers on Time); In March 2010 the UK government announced that departments would aim to pay 80% of undisputed invoices within 5 working days. This was a revision of the original prompt payment commitment introduced in 2008 to pay 90% of invoices within 10 working days. Government also announced that departments would require their contractors on all new contracts to pay subcontractors within 30 days. Prompt payment is intended to improve the cash flow of companies doing business with government departments, in particular the UK’s 5 million small and medium-sized enterprises (SMEs). The UK government believes a culture of late payment is preventing UK businesses, especially SMEs, from investing in growth and fully contributing to economic recovery. SMEs generate half of the annual turnover of UK businesses, but they often lack access to credit and may get into financial difficulties because of late payment by customers: a survey in 2014 suggested that late payment was a major factor in 1 in 5 UK corporate insolvencies (NAO: UK, 2015).

Supplier Development
Masceko (2013) study indicates that, after the prequalification of suppliers’ based on supplier competence, public institutions expect a lot from their suppliers because they are confident that they have filtered their suppliers on very efficient basis but still they are uncertain about the quality of the items to be delivered, on time delivery, commitment to quality, technology leverage, and overall performance of suppliers. These findings concur with findings of CIPS (2013) in their report on monitoring the performance of suppliers pointed that strategic monitoring of competence of suppliers is critical in management of performance operations and most importantly, management of supplier-buyer relationship. It is important that any procurement and supplies professional have the required skills in supplier relationship competence determination so as to be in a position to develop appropriate performance criteria both for suppliers and the entire procurement function. The report further indicates that performance management criteria should be well communicated to all stakeholders who are directly involved in procurement operations so as to enhance their contribution towards achievement of the desired standards.

Supplier Evaluation
Mutai and Okello(2016) conducted a study to determine the effect of supplier evaluation on performance of procurement function of Public Universities. The Public Universities campuses in Kericho County were involved in the survey. The findings of the study revealed that suppliers’ quality commitment, suppliers’ financial capacity and suppliers’ competence have significant effect on performance of procurement function of public universities campuses in Kericho County. From the findings, the study recommends that experts who are knowledgeable and have expertise should be consulted in conducting supplier evaluation. Supplier evaluation criteria should focus on suppliers’ quality commitment, financial capacity and competence should be considered when awarding supply contracts to suppliers. In Nigeria, the study conducted by Akenroye et al. (2012) on supply chain practices identified supplier evaluation as a critical supply chain activity that every organization must engage in.

METHODOLOGY
This study used descriptive research design. It involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data. Kothari (2004) observed that research design is a blue print which facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible hence yielding maximum information with minimal expenditure of effort, time and money. The study was descriptive in nature as it was deemed appropriate because it involved use of written
questionnaires administered to respondents. The target population in this study was 86 employees; the study targeted each department that was involved in the procurement process at Busia County.

A questionnaire was used to collect primary data. In this study the information was collected through self-administered questionnaires distributed personally to the subjects by the researcher. Quantitative data was collected using questionnaires was analyzed by the use of descriptive statistics using Statistical Package for Social Sciences (Version 22.0) because it had new formulas for statistics and were presented through percentages, means and frequencies. Multiple regression equation applied was as follows:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon; \quad \text{Where:} \]

- \( Y = \) Supply Chain Performance;
- \( \alpha = \) Constant;
- \( X_1 = \) Supplier Communication;
- \( X_2 = \) Supplier development;
- \( X_3 = \) Supplier payment;
- \( X_4 = \) Supplier evaluation
- \( \beta_1, \beta_2, \beta_3, \beta_4 = \) Coefficients;
- \( \varepsilon = \) Error term

RESULTS

Supplier Communication

The study sought to assess the influence of supplier communication on supply chain performance in county governments of Kenya. Majority of respondents were found to be neutral that they ensured that there was adequate communication with their suppliers (2.875). They had adequate communication channels of communication with their suppliers (2.365); Information sharing with their suppliers involved data acquisition, processing, presentation and retrieval (2.908); They monitor the progress of products and orders with their suppliers (3.210); There was information sharing with their suppliers in regard to broadcasting of demand and forecast data (2.560). The study results implied that supplier communication influenced supply chain performance in county governments of Kenya. The study findings were in consistent with literature review by Simatupang and Sridharan (2012) stated that information sharing as the access to private data between business partners thus enabling them to monitor the progress of products and orders as they pass through various processes in the supply chain. They identified some of the elements that comprise information sharing, consisting of data acquisition, processing, storage, presentation, retrieval, and broadcasting of demand and forecast data, inventory status and location, order status, cost-related data, and performance status. Information sharing with business partners enables organizations making better decisions and making action on the basis of greater visibility (Davenport, et al, 2001; Tathee, 2007).

Table 1: Influence of Supplier Communication on Supply Chain Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>We ensure that there is adequate communication with our suppliers</td>
<td>2.875</td>
<td>1.876</td>
</tr>
<tr>
<td>We have adequate communication channels of communication with our suppliers</td>
<td>2.365</td>
<td>1.560</td>
</tr>
<tr>
<td>Information sharing with our suppliers involve data acquisition, processing,</td>
<td>2.908</td>
<td>1.460</td>
</tr>
<tr>
<td>presentation and retrieval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We monitor the progress of products and orders with our suppliers</td>
<td>3.210</td>
<td>1.543</td>
</tr>
<tr>
<td>There is information sharing with our suppliers in regard to broadcasting of</td>
<td>2.560</td>
<td>1.093</td>
</tr>
<tr>
<td>demand and forecast data</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Supplier Development

The study sought to assess the influence of supplier development on supply chain performance in county governments of Kenya. Majority of respondents were found to be neutral that the county offers adequate financial support for reduction of costs in the organization (3.128); The county offered adequate technical support to the suppliers to increase order fulfillment (2.904); The county checked for a training program to enhance quality of procured goods (2.549); The county uses an approved list that can enable improvement in cost reduction (2.882); The county used a supplier incentives to enhance quality of procured goods (2.780). The county offers supplier trainings for supplier offers a continuous improvement program to enhance order fulfilment (3.206). The study findings are in line with the findings by Masceko (2013) study indicated that, after the prequalification of suppliers’ based on supplier competence, public institutions expect a lot from their suppliers because they are confident that they have filtered their suppliers on very efficient basis but still they were uncertain about the quality of the items to be delivered, on time delivery, commitment to quality, technology leverage, and overall performance of suppliers.

Table 2: Influence of Supplier Development on Supply Chain Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The county offers adequate financial support for reduction of costs in the</td>
<td>3.12</td>
<td>1.43</td>
</tr>
<tr>
<td>organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The county offer a adequate technical support to the suppliers to increase</td>
<td>2.90</td>
<td>1.28</td>
</tr>
<tr>
<td>order fulfillment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The county check for a training program to enhance quality of procured</td>
<td>2.54</td>
<td>1.32</td>
</tr>
<tr>
<td>goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The county uses an approved list that can enable improvement in cost</td>
<td>2.88</td>
<td>1.23</td>
</tr>
<tr>
<td>reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The county uses a supplier incentives to enhance quality of procured goods</td>
<td>2.78</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The county offers supplier trainings for suppliers to offer a continuous</td>
<td>3.20</td>
<td>1.22</td>
</tr>
<tr>
<td>improvement program to enhance order fulfillment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supplier Evaluation

The study sought to assess the influence of supplier evaluation on supply chain performance in county governments of Kenya. Majority of respondents were found to be neutral that the supplier quality commitment is the basis for the supplier selection for awarding supply contracts to enhance timely delivery of goods and services (2.864); The supplier financial capability directly influences the potential financial risks thus reduction of procurement costs (2.864); The supplier financial capacity reduces the potential financial risks thus reduction of the procurement costs (2.655); The supplier competence enhances the required skills and negotiation to give the optimal value to the supplies in the county government (2.543); The county government hire and employ experts who are knowledgeable and have expertise to conduct the exercise professionally (2.654). One of the techniques used by organization to select best suppliers is supplier evaluation. Supplier evaluation is the quantitative and qualitative assessment of suppliers to ensure a portfolio of best in class suppliers is available for use (Kemunto, 2014). To sustain effective and reliable sources of supplies, buyers should select their suppliers carefully and evaluate them regularly (Humphreys, 2003).

Table 3: Influence of Supplier Evaluation on Supply Chain Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The supplier quality commitment is the basis for the supplier selection for</td>
<td>2.87</td>
<td>.46</td>
</tr>
<tr>
<td>awarding supply contracts to enhance timely delivery of goods and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The supplier financial capability directly influences the potential financial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>risks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
thus reduction of procurement costs
The supplier financial capacity reduces the potential financial risks thus reduction of the procurement costs
The supplier competence enhances the required skills and negotiation to give the optimal value to the supplies in the county government.
The county government hire and employ experts who are knowledgeable and have expertise to conduct the exercise professionally
The supplier competence is considered in awarding the supply contracts to enhance quality of goods and services

Supply Chain Performance
On the extent to which supply chain performance in the county government, respondents were asked to indicate the extent to which the factors determined the supply chain performance. The data was collected from the different indicators of the variable supply chain performance which was ordinal categorical. The data was therefore presented in frequency tables with the mode being used as the appropriate measure of central tendency. The results were presented in Table 4. The first indicator for the dependent variable required to know what the county government level of supply chain performance level of cost reduction in supply chain in the county government was, 0% of the respondents had 0-10%, 3% had 11-20%, 11% had 21-30%, 17% had 31-40%, 69% had over 50%. The modal class was of the respondents who had over 50% level of cost reduction in supply chain in the county government. The median was found to be 5 which implied that on average the level of cost reduction in supply chain is over 50%.

When the respondents were asked what the level of increase in timely deliveries of procured goods and services in the county government was, 3% of the respondents 0-10%, 3% had 11-20%, 14% had 21-30%, 26% had 31-50%, 49% had over 50%. The modal class is of the respondents who had over 50% level of increase in timely deliveries of procured goods and services in the county government. The mode was found to be 5 which imply that on average the level of increase in timely deliveries of procured goods and services in the county government is over 50%.

Finally, the respondents were asked what the level of increase in customer satisfaction in the county government offered was, 0% of the respondents 0-10%, 3% had 11-20%, 3% had 21-30%, 34% had 31-50%, 60% had over 50%. The modal class is of the respondents who had over 50% customer satisfaction level. The mode was found to be 5 which imply that on average the level of increase in customer satisfaction in the county government is over 50%.

Finally, the respondents were asked what the level of reduction of stock out in the county government was, 0% of the respondents 0-10%, 3% had 11-20%, 20% had 21-30%, 43% had 31-50%, 34% had over 50%. The modal class is of the respondents who had between 31-50% reductions of stock out levels in the county government. The mode was found to be 4 which imply that on average level of reduction of stock out in the county government is between 31-50%.

Table 4: Supply Chain Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>0%-10%</th>
<th>11%-20%</th>
<th>20%-30%</th>
<th>31%-50%</th>
<th>Over 50%</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the level of cost reduction in supply chain in the county?</td>
<td>0</td>
<td>3</td>
<td>11</td>
<td>17</td>
<td>69</td>
<td>5</td>
</tr>
<tr>
<td>What is the level of increase in timely deliveries of procured goods and services in the county?</td>
<td>3</td>
<td>3</td>
<td>14</td>
<td>26</td>
<td>49</td>
<td>5</td>
</tr>
</tbody>
</table>
Multiple Regression Analysis

The study adopted a multiple regression analysis so as to establish the relationship of independent variables and dependent variables. The study applied SPSS to compute the measurements of the multiple regression analysis. According to the model summary Table 5, the coefficient of determination ($R^2$) is used to measure how far the regression model’s ability to explain the variation of the independent variables. It is notable that there exists a relationship between independent variables and dependent variable with a correlation coefficient of 0.898. The coefficient of determination is between zero and one. The data showed that the high $R^2$ value is 0.806. It shows that the independent variables in the study were able to explain 80.60% variation in the supply chain performance in the county government while the remaining 19.40% is explained by the variables or other aspects outside the model. This shows that the model has a good fit since the value is above 60%.

This concurs with Graham (2012) that $R$-squared is always between 0 and 100%: 0% indicates that the model explains none of the variability of the response data around its mean and 100% indicates that the model explains the variability of the response data around its mean. In general, the higher the $R$-squared, the better the model fits the data. The adjusted $R$ square is slightly lower than the $R$ square which implies that the regression model may be over fitted by including too many independent variables. Dropping one independent variable will reduce the $R$ square to the value of the adjusted $R$-square. This implied that these variables are very significant and they therefore need to be considered in any effort to boost supply chain performance in the county government of Kenya.

The results of Analysis of Variance (ANOVA) revealed that the significance of the F-test was done to test the effect of independent variables on the dependent variable simultaneously. The F-statistic test basically shows whether all the independent variables included in the model jointly influence on the dependent variable. Based on the study results of the ANOVA Test or F-test in Table 6, obtained F-count (calculated) value was 42.908 greater the F-critical value (Table) (32.325) with significance of 0.001. Since the significance level of 0.001 < 0.05 we conclude that the set of independent variables influence the supply chain performance in the county government (Y-dependent variable) and this shows that the overall model was significant. Thus the four variables played a significant role in the supply chain performance in the county government of Kenya.

### Table 5: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.898</td>
<td>.806</td>
<td>.798</td>
<td>.004</td>
</tr>
</tbody>
</table>

### Table 6: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>d.f</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>34.034</td>
<td>4</td>
<td>8.5086</td>
<td>42.908</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>10.509</td>
<td>53</td>
<td>.1983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44.544</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB: F-critical Value = 32.325;
Table 7 presents the beta coefficients of all independent variables versus supply chain performance in the county governments of Kenya. As can be observed from Table 7, Supplier communication (X₁) had a coefficient of 0.702 which was greater than zero. The t statistics was 6.387 which has a p-value of 0.000 which is less than 0.05 implies that the coefficient of X₁ is significant at 0.05 level of significance. This shows that supplier communication has a significant positive influence on supply chain performance in the county governments of Kenya. The beta coefficient of supplier evaluation (X₄) was 0.693 which was greater than zero. The t statistic of this coefficient is 6.032 with a p value of 0.002 which is less than 0.05. This implies that the coefficient 0.693 is significant. Since the coefficient of X₂ is significant, it showed that supplier payment has a significant effect on supply chain performance in the county governments of Kenya. Table 7 also shows supplier development (X₃) had a coefficient of 0.643 which was greater than zero. The t statistic was 5.276 which had a p-value of 0.004 which was less than 0.05 implies that the coefficient of X₃ is significant at 0.05 level of significance. This showed that supplier development had a significant positive influence on supply chain performance in the county governments of Kenya.

Table 7 further showed that supplier evaluation (X₄) had a coefficient of 0.619 with a t statistic of 4.876 which has a p-value of 0.005 which is less than 0.05. This implies that the coefficient of X₄ is significant at 0.05 level of significance. This showed that supplier evaluation has a significant positive influence on supply chain performance in the county governments of Kenya. Finally, the constant term is 13.697. The constant term is the value of the dependent variable when all the independent variables are equal to zero. The constant term has a p value of 0.000 which is less than 0.05. This implied that the constant term was significant. The multiple regression of supply chain performance in the county governments of Kenya is thus an equation through the 13.697. If all the independent variables take on the values of zero, there would be 13.697 supply chain performances in the county governments of Kenya.

Table 7: Regression Coefficient Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>β</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>13.697</td>
<td>1.986</td>
<td>6.897</td>
<td>.000</td>
</tr>
<tr>
<td>Supplier Communication</td>
<td>.702</td>
<td>.111</td>
<td>.665</td>
<td>6.387</td>
</tr>
<tr>
<td>Supplier Payment</td>
<td>.693</td>
<td>.115</td>
<td>.654</td>
<td>6.032</td>
</tr>
<tr>
<td>Supplier Development</td>
<td>.643</td>
<td>.122</td>
<td>.455</td>
<td>5.276</td>
</tr>
<tr>
<td>Supplier Evaluation</td>
<td>.619</td>
<td>.127</td>
<td>.332</td>
<td>4.876</td>
</tr>
</tbody>
</table>

CONCLUSIONS

The study concluded that supplier communication influence supply chain performance in the county governments of Kenya. The regression coefficients of the study showed that supplier communication had a significant positive influence on supply chain performance in the county governments of Kenya. This implied that increasing levels of supplier communication would increase the levels of supply chain performance in the county governments of Kenya. This shows that supplier communication has a strong positive influence on supply chain performance in the county governments of Kenya.

The study concluded that supplier payment influence supply chain performance in the county governments of Kenya. The regression coefficients of the study show that supplier payment has a significant positive influence on supply chain performance in the county governments of Kenya. This implied that increasing levels of supplier payment would increase the levels of supply chain performance in the county governments of Kenya.
performance in the county governments of Kenya. This showed that supplier payment has a strong positive influence on supply chain performance in the county governments of Kenya.

Further, study concluded that supplier development influence supply chain performance in the county governments of Kenya. The regression coefficients of the study show that supplier development has a significant positive influence on supply chain performance in the county governments of Kenya. This implied that increasing levels of supplier development would increase the levels of supply chain performance in the county governments of Kenya. This showed that supplier development had a strong positive influence on supply chain performance in the county governments of Kenya.

Finally, the study concluded that supplier evaluation influence supply chain performance in the county governments of Kenya. The regression coefficients of the study showed that supplier evaluation had a significant positive influence on supply chain performance in the county governments of Kenya. This implied that increasing levels of supplier evaluation would increase the levels of supply chain performance in the county governments of Kenya. This showed that supplier evaluation had a strong positive influence on supply chain performance in the county governments of Kenya.

**RECOMMENDATIONS**

The study recommended that there is need to have adequate communication with the suppliers. There is need to have adequate communication channels with their suppliers. Information sharing is important with the suppliers involving data acquisition, processing, presentation and retrieval. There is need for monitoring the progress of products and orders with their suppliers.

The study recommended for timely payment of the suppliers to enhance supply chain performance with the county government. The use of a supplier pricing should not be the only basis for awarding the contracts to reduce the procurement costs. The supplier bargains and discounts in order can be considered during the negotiations to enhance reduction of goods and services delivered.

The study recommended for county government offer adequate technical support to the suppliers to increase order fulfillment. The county government checks for a training program to enhance quality of procured goods. The county government can use an approved list that can enable improvement in cost reduction. The county government can offer suppliers incentive to enhance quality of procured goods.

There is need to have supplier evaluations being carried out in order to enhance supply chain performance in the county governments of Kenya. The supplier evaluation can be based on to check on the financial capability of supplies which directly influencing the reduction of potential financial risks thus reduction of procurement costs. The supplier competence enhances the required skills and negotiation to give the optimal value to the supplies in the county government.

**Areas for Further Research**

The study was a milestone for further research in the field of supply chain performance in the county governments of Kenya. The findings demonstrated the important factors to enhancement of supply chain performance in the county governments of Kenya to include; supplier communication, development, payment and evaluation. The current study covered only 80.60% and the remaining 19.40% should therefore be expanded further in future in order to determine the effect of supplier management practices on supply chain performance in the county governments of Kenya. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other factors which also influence supply chain performance in the county government of Kenya.
REFERENCES


