DETERMINANTS OF SUPPLIER SELECTION ON THE PERFORMANCE OF PUBLIC INSTITUTIONS IN KENYA: CASE OF KAKAMEGA COUNTY, KENYA

Martin Mukabi Shiati*, Dr. Yusuf Kibet2, Dr. Douglas Musiega3

1Student, Jomo Kenyatta University of Agriculture and Technology, Kakamega Campus, Kenya.

2Lecturer, Moi University, Kenya.

3Director, Jomo Kenyatta University of Agriculture and Technology, Kakamega Campus, Kenya.

ABSTRACT

Supplier selection is the process by which firms identify, evaluate, and contract with suppliers. During the last decades there has been a growing realization of the important contribution that suppliers can have on an organization’s performance. The purpose of this study therefore, was to assess the determinants of supplier selection and the impact they have in the performance of public institutions in Kenya. To achieve this objective the study used the following research objective: to determine the extent to which quality of supplies affects the performance of public institutions. The study was guided by case study and descriptive research survey designs. The study targeted procurement staff in the following public institutions: 35 staff in major public hospitals, 18 sub-county procurement staff and 8 county procurement staff. All the 35 staff in procurement department, 18 sub-county procurement staff and eight (8) county procurement staff were used in the study, hence forming a census study. The questionnaire and the interview schedules were the primary research instruments used in data collection. On the validity of the instruments, the researcher used content validity while reliability was established by use of Cronbach’s Alpha coefficient that yielded a value of 0.83 which was acceptable implying that the instruments were reliable. The researcher then analysed the data using Statistical Program for Social Scientists (SPSS), where descriptive statistics were generated in terms of frequencies, percentages, and means among others and the results were presented in cross tabulation and frequency tables. The second level of the data analysis involved inferential statistics where regression analysis was used to establish the association between study variables at 95% confidence level, p-value ± 0.05. The inferential statistical tools were used to test null hypotheses at confidence interval level of 95% (p<5% or p>5%). The study findings were: quality of supplies had a positive and significant association on the performance of public institutions; supplier cost had a positive and significant (p<0.05) association on performance of public institutions in Kakamega County. The following were the conclusions of this study: when conformance quality is enhanced in public institutions in Kakamega County, then product or services achieves customer satisfaction leading to improved performance. It was therefore recommended that
the procurement department of public institutions in Kakamega County should reinforce and apply quality dimensions. The research findings will be helpful to academicians, procurement officers and the County Government as a whole on the determinants of supplier selection and the impact they have on the performance of public institutions.

**Keywords:** Quality, Procurement, Public Procurement, Performance, Productivity.

**INTRODUCTION**

Supplier selection is the process by which organizations identify, evaluate, and contract with suppliers, (Weber & Current, 1991). The supplier selection process deploys a tremendous amount of an organization’s financial resources. In return, organizations expect significant benefits from contracting with suppliers offering high value. Buyers must define and measure what “best value” means for the buying organization, and execute procurement decisions accordingly, (ibid, 1991).

Supplier selection has become one of the fastest growing areas of management especially in the last few years. To survive in the intensely competitive global economy, it is often critically important to not only develop existing suppliers but also to discover new suppliers. Although study in this area started in 1960s, it is in the 90s that scholars gained much interest in the area of supplier selection. With heightened global competition that has reduced the profit margins of most companies, cost cutting has become the option and is being focused in logistics which has become the single largest and most important activity of most firms, both in the public and private sectors. As such, quite a significant portion of organizations’ budgets is spent in these activities. Supplier selection in particular is crucial in management of a supply chain. The decision is one of the most fundamental and important decisions made by buyers and organizations. This is because supplier selection and management can be applied to a variety of suppliers throughout a products’ life cycle from initial raw materials acquisition to end-of-life service providers (Bai and Sarkis, 2009).

Internationally, purchasing is a major exercise. In USA, the total dollar magnitude of all purchases by businesses exceeded the gross national product in 1995. Purchasing transactions take 55% of the organization’s revenue. Supplier selection becomes important thus because it involves large cash flows (Cheraghi, Dadashzadeh & Subramanian, 2007).

In Kenya, about 60% of government revenue is spent on procurement. The Kenyan government is a major buyer of goods and services in the country. This it does through various public institutions spread out all over the country. In view of this the government has put in place various procedures and processes to follow when conducting public procurement. The Kenyan constitution, (2010) has many specific provisions relating to public procurement as a process as cited in article 227. The public procurement and disposal Act 2005, was enacted to streamline and speed up the operation of public institutions by making the public procurement process more transparent, ensure accountability and reduce wastage of public resources. As public institutions play a significant role in value addition, creation of employment, demand for goods and services and contribution to the national wealth. The procurement process must conform to the laid down regulations.
Before a supplier is selected by public institutions in Kenya prior performance is one of the key issues considered. Supplier selection is in accordance with the Public Procurement and Disposal Act, 2005 and the Public Procurement and Disposal Regulations of 2006. Regulation 51 (1) (i) states that, “Contracts shall be awarded to the lowest evaluated bidder…” Other criteria include “compliance with specifications, technical acceptability, compliance with delivery schedules, and local servicing and availability of spare parts.” Quality and reliability are also supplier selection determinant for most Kenyan public institutions (ibid).

Globally, supplier selection decisions are intricate due to the fact that multiple criteria must be considered in the decision making process. Multi-criteria approach is used in selecting suppliers, (Weber & Current, 1991). Although there are numerous criteria used in selecting suppliers depending on organizations, literature suggests that the most important are price, delivery, and quality.

Locally, the procurement procedures pretty much follow the international standards to a large extent. This means that even supplier selection determinants are more or less similar to those considered by purchasers everywhere else.

Supplier selection and evaluation has become one of the major topics in production and operations management literature (Motwani et al., 1999). It is the process by which organizations identify, evaluate and contract with suppliers. Supplier selection is one part of the value chain that is now considered to deploy tremendous amount of an organization’s resources and for this reason, much is expected in terms of high value from suppliers (Beil, 2009). These are part of what is today called supply management in the supply chain management function in an organization. Supply management refers to “the process of identification, acquisition, access, positioning, and management of resources an organization needs or potentially needs in the attainment of its strategic objectives” (Institute of Supply Management).

Typical criteria for supplier selection could be price structure, delivery which entails timeliness and cost, product and services quality. It is the ongoing process of searching and evaluating process to find a supplier of essential goods and services required in an organization for normal operations.

The term procurement is used in the place of purchasing, and encompasses activities of specifications development, expediting, supplier quality control and some logistic activities (Wisner, Tan, and Leong, 2008). Some scholars have postulated that supply management is today a mainstream value adding process that is viewed as most strategic (Cousins, 2005).

The main objective of supplier selection process is to reduce purchase risk, maximize overall value to the purchaser, and develop closeness and long-term relationships between buyers and suppliers (Li et al., 1997 as cited in Tahriri, Osman, Ali and Yusuff, 2008).

According to Benyoucef et al. (2003), supplier selection process is continuous in order to upgrade the existing variety and typology of their product range. It is necessitated by the fact that most products generally have short lifecycle of 3 to 4 years.
STATEMENT OF THE PROBLEM

Determinants of supplier selection by public institutions have been quite a mystery among local suppliers. Few know the attributes the institutions look out for in suppliers and consequently fail to bid for contracts from government. All through, the procurement process, supplier selection is perceived to be riddled with secrecy and favoritism, (Bonhestaut, 2008). Certainly, this not only complicates the realization of the government’s stated objective of seeing increased participation of local suppliers and vendors in doing business with it hence spurring growth and employment opportunities across the country, but also raises concern over the social justice in the spending of taxpayers’ funds given the massive amounts of money involved, (ibid, 2008).

Doing business with the public institutions is one way of ensuring market for small and medium sized business enterprises hence job creation and fulfilling one of the Millennium Development Goals’ objective of poverty alleviation, (Kenya Vision 2030). Despite these obvious benefits of doing business with the government, most Kenyan small and medium sized enterprises do not fully benefit from the contracts because they do not know the requirements for supplier selection. A July 2008 study report commissioned by KISM notes that public procurement systems work well though they tend to be over-bureaucratized which is itself a constraint to most suppliers with potential to supply their procurement needs. Previous studies have been done on the determinants of supplier selection and impact on performance of organizations and businesses in the private sector. Nadir H. et al (2012) did a study and elicited the main determinants of supplier selection as quality, financial stability, technical expertise and supplier profile. Although there are studies on supplier selection determinants in procurement, most of these focus on Private Sector Agencies. There are hardly any studies focusing on supplier selection determinants in Public Sector Organizations and particularly, the public institutions in Kenya, hence the need for this study. It was on this premise therefore that this study focused on the determinants of supplier selection and their impact on the performance of public institutions, with special focus on the public institution in Kakamega County, Kenya.

OBJECTIVES OF THE STUDY

The general objective of this study was to investigate the determinants of supplier selection on the performance of public institutions in Kenya with special reference to public institution in Kakamega County.

The specific objectives were:

1. To determine the extent to which quality of supplies affects the performance of public institutions in Kakamega County.

RESEARCH HYPOTHESES

This study was guided by the following research hypothesis:

H₀₁: Quality of supplies does not have significant effect on the performance of public institutions in Kakamega County
SIGNIFICANCE OF THE STUDY

This study is significant in the sense that it will put into perspective the exact determinants for supplier selection by public institutions in Kenya. The study will be of significance to suppliers especially in the small and medium size categories as it will shed light on what public institutions consider in a supplier before awarding a contract. The study will also be valuable to business consultants and entrepreneurship trainers as they will help businesses develop capacities in the key aspects that public institutions consider before selecting suppliers. The study will enable more firms do business with public institutions. The study will also shed light on the impact that supplier selection has on the performance of public institutions. This study will also add knowledge to existing literature in the academic spheres.

SCOPE OF THE STUDY

The study confined itself on public institutions in Kakamega County. Focus was restricted on procurement practitioners and procurement staff in public institutions in the county. The study was intended to take place in a period of three months within the months of January and March 2014.

The Conceptual Framework

Quality refers to conformance to requirements or fit to use. Conformance quality is also viewed as absence of defects (APICs, 1999). Quality can be thought as the extent to which a product or services achieves customer satisfaction. Companies have to offer quality services in order to win their customers. The need for the good quality of end product that satisfy customer has greatly led to a lot of considerations when procuring raw materials equipment service. Quality will be measured by looking at the satisfaction of quality dimensions, such as performance, features, reliability, durability, prestige, serviceability, convenience, or aesthetics which define customers’ satisfaction with the quality of goods or services.

![Conceptual Framework]

Independent variable

Dependent Variable

LITERATURE REVIEW

Extant review shows that from empirical front, comprehensive efforts have been made to develop decision methods and techniques for supplier selection. Weber et al. (1991) reviewed and classified 74 articles that appeared since 1966 with regard to particular criteria used in supplier selection (as cited in Mendoza, 2007). In these papers, what comes out as the major supplier selection determinants include; price, delivery, quality, and production capacity and location. Holt presented a review of contractor evaluation and supplier selection
methodologies such as multi-attribute analysis, multi-attribute utility theory, and cluster analysis where he discusses applications of each of these techniques. Degraeve et al. (2006) uses the Total Cost of Ownership (TCO) as the framework for comparing supplier selection models.

Omar & Sim (2010) in a study on supplier selection criteria conducted on Malysian Manufacturing firms found that cost followed by quality ranked higher than any other determinants. Delivery ranks third based on their analysis

Dickinson (1966) in his pioneering work on supplier selection identified and ranked 23 supplier selection criteria as collected from a questionnaire given to purchasing agents. Quality, delivery, and performance history rank top with net price ranking a distant sixth. This seems to concur with previous studies, but one notable discrepancy is that price curiously ranks lower than quality. Again, net price is deceptive as other related costs such as packaging and freight cost could raise the total cost. Total cost covers everything hence should be the one listed and not net cost. Ellram (1990) proposed three criteria for supplier selection. These are: the financial statement of the supplier, organizational culture and strategy of supplier, and the technological state of supplier.

QUALITY OF PRODUCTS

Quality is a totality of features and characteristic of product and services need to perform stated and implied needs. Crosby (1980) defines quality as ‘Conformity to requirements not goodness’ he also stresses that the definition of quality can never make any sense unless it is based on what the customer wants, that is, a product is a quality product only when it conforms to the customer requirements. Quality plays an important role in the organization due to the proper recruitment of suppliers as they usually supply products of the required standard (Delfman et al., 2007).

In many markets today, quality is expected as a given requirement and is considered an entry-level characteristic of the market place (Barrie et al). Competition is fierce in today’s business environment and quality is recognized as a key consideration in many purchasing decisions. It is no wonder that quality is an essential component of market mix as companies seek ways to differentiate effectively their products and services from those of their competitors. For instance, many major European companies have during the last decades encouraged their suppliers to develop their quality management system, use lean manufacturing techniques, adopt a continuous improvement philosophy, eliminate non value adding activity, pursue cost down activities, and concentrate on their core competencies and product line. The key ideas in this principle are products. This breakthrough is focused on improving or eliminating chronic loses. The International Organization of standard released its ISO 9001:2000 standards with practical version that justify the inclusion in this section that ISO calls for a Quality management system. The principles are intended to be used as a framework to guide organizations towards improving their performance. According to ISO, the principles are derived from collective experience and knowledge of international experts. Standardization has enhanced increased efficiency in purchasing and subcontracting operations and has enhanced multiple vendors, high volume items which will be up to the required standards.
Working on improving the quality offered by the suppliers is therefore the main task for buyers. To improve the quality of the products, many companies opt for approach based prevention. Cooperation is required from every department with regard to purchasing, the objective of prevention is to maintain or improve the quality of goods and services to be purchased. This is based on selecting the supplier who can guarantee a sufficient level of quality. It is important that the supplier also guarantees this quality level for the future. TQM demands that our focus be on the processes that create output rather than the output itself. Since processes create output, a logical focus is on the process of creation itself rather than result. An emphasis on process rather than product demands that suppliers provide evidence of process capacity on regular basis. Furthermore, each time a supplier modifies a process, a new capability study is required. Focusing on a process means minimizing a reliance of sample conformance. A well-defined selection process supports the development of the best practices, reduces duplication across teams or units and recognizes the critical units between quality of the selection decision and supply chain quality (Nadir et al. 2012).

Quality assessment is therefore a key factor of suppliers by which they can improve and maintain quality and delivery performance. It is very important for the company and suppliers. Quality and availability of product depends on this criterion. This factor will be measured on the basis of the importance of the following quality dimensions: management commitment, product development of suppliers, process improvement of suppliers, quality planning and quality assurance in supply chain, quality assessment in production, inspection and experimentation and quality staff of supplier (Beamon, 1999). The rejection rate of the product is defined in the terms of the number of parts rejected by the customers in fixed time period because of some quality problems. It also includes the defective parts detected in the incoming products. This encounters the issues like whether or not the frequent quality assessment of the parts has been done by the Supplier.

**MEASURING PRODUCT QUALITY**

Stating the requirements in a clear, concise, and testable fashion is only part of achieving product quality. It is also necessary to identify the measures and criteria that will be used to identify the desired level of quality and determine if it has been achieved. Measures describe the method used to capture the data used to assess quality, while criteria define the level or point at which the product has achieved acceptable (or unacceptable) quality.

Measuring the product quality is achieved using one or more measurement techniques, such as: reviews / walkthroughs; inspection; execution. Different metrics are used, dependent upon the nature the quality goal of the measure. For example, in reviews, walkthroughs, and inspections, the primary goal is to focus on the function and reliability quality dimensions. Defects, coverage, and compliance are the primary metrics used when these measurement techniques are used. Execution however, may focus on function, reliability, or performance. Therefore defects, coverage, and performance are the primary metrics used. Other measures and metrics will vary based upon the nature of the requirement.
RESEARCH METHODOLOGY

Introduction

This chapter covers the following sub sections: the research design, the target population, sample design which contains sampling techniques, data collection instruments and pilot test, and data analysis and presentation.

Research Design

This study was guided by case study and descriptive research survey designs to understand the phenomena through the meanings that people assign to them and it aims at understanding the context (Walsham, 1997) of the determinants of supplier selection on the performance of public institutions in Kakamega County. There are two main advantages of using case study approach: Its ability to let the subject unfold naturally, to refine concepts and frames of reference while studying the phenomena and it enables the researcher to understand and capture the dynamics of the process of change (Galliers, 1992). This study also sought to describe the determinants of supplier selection on the performance of public institutions, that is, describing the phenomenon as it exists. Therefore, descriptive research design was used as it is deemed to be the most appropriate. Various authors recommend the use of descriptive design to produce information that is of interest to policy makers even in business (Orodho, 2004; Dane, 2000). Jackson (1994) contends that all research is partly descriptive in nature, in so far as the descriptive aspect defines and describes the research’s who, what, when, where, why, and how, which are exactly some of the questions raised in the study. The descriptive research design was also help save time and money.

Location of Study

This study was carried out in Kakamega County, one of the former districts of Western Province. The County borders Bungoma County to the North, Trans Nzoia County to the North East, Uasin Gishu and Nandi Counties to the East, Vihiga County to the South, Siaya County to the South West and Busia County to the West. It covers an area of 3,224.9 square Kilometers with a population of about 1.7 million people. The main economic activity is agriculture, mainly large-scale sugar cane farming. The County has six sub-counties currently at the time of carrying out the study. The study will be conducted in Kakamega County which comprises one (1) County Headquarter, six (6) Sub-Counties (Kakamega North (Malava), Kakamega Central (Lurambi), Kakamega South (Ikolomani), Kakamega East (Shinyalu), Butere and Mumias). The County has five (5) major Health Facilities: – Provincial General Hospital (1), four Sub-County Hospitals.

Target Population

The study targeted procurement staff in the following public institutions: 35 staff in major public hospitals, 18 sub-county procurement staff and 8 county procurement staff (Hospital Human Resource Management and Procurement Departments of Kakamega County, 2014).

Sample Size and Sampling Procedures

Kline (1993) says that despite the geographical distribution, the sample size was guided by the general rule in most social science research which suggests the use of the largest sample
to facilitate generalization. Mugenda and Mugenda (2003) define sampling as a process of selecting the number of subjects for a given study which represents a larger group from which the subjects will be selected while a sample is a smaller number of subjects obtained from accessible and representative population. All the 35 staff in procurement department, 18 sub-county procurement staff and eight (8) county procurement staff were used in the study, hence forming a census study. A census is a study of every unit, everyone or everything, in a population. It is known as a complete enumeration, which means a complete count. It provides a true measure of the population (no sampling error), benchmark data may be obtained for future studies and detailed information about small sub-groups within the population is more likely to be available (Australian Bureau of Statistics, 2013). A purposive sampling technique was used to select a principal procurement officer (see Table 1).

Table 1: A Sample Frame

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Target Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Sub-County Procurement Officers</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>County Procurement Officers</td>
<td>08</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>61</strong></td>
<td><strong>61</strong></td>
</tr>
</tbody>
</table>

Source: Hospital Human Resource Management and Procurement Departments of Kakamega County (2014)

Data Collection Instruments

The questionnaire was the main instrument, alongside interviews schedules. The use of questionnaires for primary data collection has been supported by many scholars among them; Mugenda (2003), and Peil (1995). A questionnaire is easier to administer, less costly, and ensures greater depth of response, according to Mugenda (2003). A questionnaire also helps capture factual information effectively. For the purpose of this study, the questionnaire was used for the mainly economical, and appropriateness reasons. Interview schedule is an interview with pre-coded question to produce quick, cheap and easy quantitative data which is high in reliability but low in validity (Chitika, 2012). The interview schedule was administered to the principal procurement officer at the county procurement of Kakamega County.

Validity and Reliability of Research Instruments

This section focused on the validity and reliability of the research instruments.

Validity

Content validity refers to the degree to which the content of the items reflects the content domain of interest (Miller, 2003). Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests (AERA/APA/NCME, 2000). Best and Khan (2005) suggest that the validity of the instrument is asking the right question framed from the least ambiguous way. White (2005) describes validity as the agreement between the researcher’s conclusion and the actual reality. The research adopted the content validity to measure the validity of the instruments to be used. Content validity enables data being collected to be reliable in representing the specific content of a particular concept. Supervisors and the research experts in the Department of Procurement and Logistics were used to evaluate the applicability and appropriateness of the
content, clarity and adequacy of the research instrument from a research perspective. Borg and Gall (1985) points out that validity of an instrument is improved through expert judgment. Validity was also checked during piloting to ensure all the items to be in the main study are functioning. Moreover, to ensure validity of the instruments, content validity was established (Cozby, 1977) from the pretest and re-test method that was done before the actual research. The pre-test retest was done in an area within the study location which was not included during the actual research undertaking.

Reliability

Mugenda and Mugenda (2002) states that, reliability is the measure of the degree to which the research instrument yields the same results of data, after repeated trials. To minimize errors the researcher used test and retest method in order to test reliability of the research instruments. The consistency of questionnaire was established through test re-test method where research tools were administered twice to the same people under identical conditions. This procedure reveals the questions that are vague that can lead to respondents interpreting them differently hence adjustments accordingly. A pilot study was conducted using the questionnaires which were administered to respondents from the selected public institutions (see Table 3.1). Those questions that were not clear or are ambiguous were revised so as to collect the desired information. After piloting, the internal consistence procedure was used to determine the reliability of the instruments. This was determined from scores obtained from a single test administered to a sample of subject. A score obtained in one item was correlated with scores obtained from other items in the instrument. Finally, Cronbach Alpha Reliability coefficient value was computed which yielded an alpha of 0.83 to determine how items correlated among themselves. The threshold value acceptable in this study was 0.7 and higher according to Fraenkel and Wallen (2000); Mugenda and Mugenda (2003). On the basis of the results of piloting process, the instruments were then be retained or duly modified to meet performance standards before being used for data collection.

Data Collection Procedures

The researcher sought for a research permit and a research authorization letter from the National Commission for Science Technology and Innovation (NACOSTI) before embarking on data collection process as dictated by ethics. The instruments were administered through personal visits to the Kakamega County. The questionnaires were then administered in the presence of the researcher after agreeing on the dates and then collected personally or using research assistants. The researcher took time to explain any issues arising from the questionnaires.

Data Analysis and Presentation

All data collected were coded and tabulated on the basis of various objectives and variables that measure them. Using Statistical Program for Social Scientists (SPSS), descriptive statistics were generated in terms of frequencies, percentages, and means among others. Frequencies, percentage and means allowed the use of descriptive statistics and the results were presented in cross tabulation and frequency tables, pie charts and bar graphs. The second level of the data analysis involved inferential statistics where regression analysis was used to establish the association between study variables at 95% confidence level, p-value ±
The inferential statistical tools were used to test null hypotheses (\( H_0 \) to \( H_4 \)) at confidence interval level of 95\% (\( p<5\% \) or \( p>5\% \)). Using Statistical Program for Social Sciences (SPSS), the values of the coefficients were obtained. Thematic analysis (Braun, 2006) was adopted for qualitative data. Themes were identified in textual data based on three criteria namely recurrence, repetition and forcefulness (Keyton, 2006). Multiple Regression Analysis was used to predict the effect of several independent variables simultaneously (quality of supplies, supplier cost, supplier reliability and culture) on dependent variable (performance of public institutions). The regression equation was developed as shown in Figure 2, where the dependent variable was modeled as a function of the independent variables.

\[
Y = f(X, \beta)
\]

Dependent Variable = \( f \) (Independent Variables, Unknown Parameters)

\[
Y_i = f(X_1 \beta_1 + X_2 \beta_2 + X_3 \beta_3 + \epsilon)
\]

\( Y_i \) = Quality of supplies

\( X_1 \) = Supplier cost

\( X_2 \) = Supplier reliability

\( X_3 \) = Culture

\( \epsilon \) = Error form, normally distributed about a mean of 0

**RESULTS AND DISCUSSION**

**Table 2: How Quality of Supplies Affects the Performance of Public Institutions**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is proper recruitment of suppliers in public institutions</td>
<td>4(6.6%)</td>
<td>29(47.5%)</td>
<td>0(0.0%)</td>
<td>16(26.2%)</td>
<td>12(19.7%)</td>
<td>3.41</td>
</tr>
<tr>
<td>Public institution have a defined and documented quality policy</td>
<td>2(1.7%)</td>
<td>9(7.5%)</td>
<td>6(5.0%)</td>
<td>51(42.5%)</td>
<td>52(43.3%)</td>
<td>4.46</td>
</tr>
</tbody>
</table>

| Suppliers supply products/services of the required standard               | 13(21.3\%)     | 32(52.5\%)| 3(4.9\%)  | 12(19.7\%)| 0(0.0\%)         | 3.77 |
| Quality is an essential component of market mix                            | 22(36.1\%)     | 35(57.4\%)| 0(0.0\%)  | 3(4.9\%)  | 1(1.6\%)         | 4.27 |
| County/sub-counties have developed quality management system and techniques| 10(16.4\%)     | 16(26.2\%)| 15(24.6\%)| 13(21.3\%)| 7(11.4\%)        | 3.18 |
| There is adoption of a continuous improvement philosophy, eliminate non-value added activity| 2(3.3\%)       | 24(39.3\%)| 13(21.3\%)| 10(16.4\%)| 12(19.6\%)       | 2.93 |
| Quality of products affects the performance of public institutions         | 20(32.8\%)     | 26(42.6\%)| 7(11.5\%) | 5(8.2\%)  | 3(4.9\%)         | 4.03 |
On the question asked if there was proper recruitment of suppliers in public institutions, the respondents gave varied views: 6.6% of respondents strongly agreed, 47.5% agreed, 26.2% of respondents disagreed while 19.7% strongly disagreed. This question had a mean of 3.41 which indicates that majority of the respondents were undecided whether there was proper recruitment of suppliers in public institutions. It has been observed that quality plays an important role in the organization due to the proper recruitment of suppliers as they usually supply products of the required standard (Delfman et al., 2007). In accordance to the question asked whether public institution have a defined and documented quality policy, 1.7% of respondents strongly agreed, 7.5% agreed, 5% were undecided, 42.5% disagreed while 43.3% of strongly disagreed. This question had a mean of 4.46. The respondents gave different views on whether the County/sub-counties had developed quality management system and techniques: 16.4% strongly agreed, 26.2% agreed, 24.6% of respondents were undecided, 21.3% disagreed while 11.4% strongly disagreed. This variable had a mean of 3.18.

Moreover, there was some indication that there was adoption of a continuous improvement philosophy, eliminate non-value added activity to enhance quality in the county government of Kakamega: 3.3 % of respondents strongly agreed, 39.3% agreed, 21.3% of respondents were undecided and 36% disagreed. The variable had a mean of 2.93. The majority of respondents were of the views that quality of products affects the performance of public institutions: 32.8% of respondents strongly agreed, 42.6% agreed, 11.5% were undecided, 13.1% of respondents disagreed. The mean for this variable was 4.03 an indication that indeed that quality of products affects the performance of public institutions.

Therefore, to test hypothesis, H₀: quality of supplies does not have significant effect on the performance of public institutions in Kakamega County, a regression model was established between these two variables as shown in Table 2 (y = 0.444x + 2.215). The regression model was achieved when quality of supplies were regressed against performance of public institutions at significance level of p<0.05. This analysis was used in order to find the equation that best represents the linear relationship between independent variable quality of supplies and performance of public institutions. The analysis was also used to determine the strength of the relationship between these two variables.

Table 3: How Quality of Supplies Affects the Performance of Public Institutions

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t-test</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is proper recruitment of suppliers in public institutions</td>
<td>0.669</td>
<td>0.143</td>
<td>0.523</td>
<td>4.665</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Public institution have a defined and documented quality policy</td>
<td>0.063</td>
<td>0.165</td>
<td>0.042</td>
<td>0.383</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Suppliers supply products /services of the required standard</td>
<td>0.114</td>
<td>0.127</td>
<td>0.102</td>
<td>0.899</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Quality is an essential component of market mix</td>
<td>0.504</td>
<td>0.179</td>
<td>0.315</td>
<td>2.810</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>County/sub-counties have developed quality management system and techniques</td>
<td>0.025</td>
<td>0.105</td>
<td>0.027</td>
<td>0.239</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>There is adoption of a continuous improvement philosophy, eliminate non-value added activity</td>
<td>0.111</td>
<td>0.115</td>
<td>0.118</td>
<td>0.967</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>

Overall value | 0.248 | 0.188 | 1.66  |

N= 61; Constant/predictor variable: Quality of Supplies; Dependent Variable: Performance of Public Institutions; p-value <0.05
The results in Table 3 indicate that proper recruitment of suppliers in public institutions positively and significantly ($b = 0.669$, $r = 0.523$ and $t$-value $= 4.665$, $p<0.05$) influences performance of public institutions. Similarly, the interactive effect of the public institution having a defined and documented quality policy had a marginally positive and insignificant association on the performance of public institutions ($b = 0.063$, $r = 0.042$ and $t$-value $= 0.383$, $p>0.05$). It is worth noting that the correlation, regression and $t$-values were very small, an indication of a weak negative association between these two variables. The variable on suppliers supply products/services of the required standard had marginally positive and insignificant association on the performance of public institutions ($b = 0.114$, $r = 0.102$ and $t$-value $= 0.899$, $p>0.05$). Similarly, the variables on county/sub-counties have developed quality management system and techniques and there is adoption of a continuous improvement philosophy, eliminate non-value added activity both had marginal positive associations on the performance of public institutions.

The study therefore established that quality of supplies had a positive and significant association on the performance of public institutions ($b = 0.248$, $r = 0.188$ and $t$-value $= 1.66$, $p<0.05$). Therefore, based on these study findings the hypothesis, $H_0$: quality of supplies does not have significant effect on the performance of public institutions in Kakamega County was rejected since a positive and significant association.

**SUMMARY OF THE FINDINGS**

The study therefore established that quality of supplies had a positive and significant association on the performance of public institutions ($b = 0.248$, $r = 0.188$ and $t$-value $= 1.66$, $p<0.05$). Therefore, based on these study findings the hypothesis, $H_0$: quality of supplies does not have significant effect on the performance of public institutions in Kakamega County was rejected since a positive and significant association.

**CONCLUSION**

The following conclusion was derived from the study findings:

Results show that quality of supplies had a positive and significant association on the performance of public institutions ($b = 0.248$, $r = 0.188$ and $t$-value $= 1.66$, $p<0.05$). Therefore, when conformance quality is enhanced in public institutions in Kakamega County, then product or services achieves customer satisfaction leading to improved performance.

**RECOMMENDATIONS**

Since quality of supplies has shown to improve performance of public institutions positively and significantly, it is important for the procurement department of public institutions in Kakamega County to reinforce and apply quality dimensions, such as performance, features, reliability, durability, prestige, serviceability, convenience, or aesthetics which define customers’ satisfaction with the quality of goods or services in the selection of suppliers.

**REFERENCES**


Handfield RB, Nichols EL. Introduction to Supply Chain Management, Prentice Hall, USA, 1999.


