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INFLUENCE OF SUPPLIER SELECTION CRITERIA ON PERFORMANCE OF PUBLIC TERTIARY TRAINING INSTITUTIONS IN KENYA

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Abstract: This study sought to determine the influence of supplier selection criteria on performance of public tertiary training institutions in Kenya. The study specifically established the influence of financial evaluation, commercial evaluation, technical evaluation and quality management evaluation on performance of public tertiary training institutions in Kenya. The study was guided by the Transaction Cost Economic Theory, Internal Control Theory, Lean Supplier Competence and Agency Theory. A descriptive research design was adopted. The target population comprised of the 78 public tertiary training institutions in Kenya. The study conducted a census on all the institutions. The head of procurement departments were targeted as the unit of observation. Primary data collected through the use of questionnaires was used. Quantitative data was analyzed using descriptive statistics. Inferential analysis was also adopted to test the relationship between the variables. Inferential analysis involved the use of correlation and multivariate regression analysis. The study findings revealed that all the four supplier evaluation criteria, that is financial evaluation, commercial evaluation, technical evaluation and quality management evaluation influenced performance of public tertiary training institutions in Kenya positively. However, the influence of commercial evaluation was not significant. The study therefore recommends that public tertiary training institutions should aim to improve their supplier's commercial practices evaluation in terms of past performance, reputation, compliance to conditions of the contract, customer relationship management, operational speed, ability to deliver the right quantity and reliability so as to have an improvement in performance. There is also a need for public tertiary training institutions to improve their technical evaluation of suppliers in terms of supplier's capacity to perform tasks, strategic location, network, state of technology, production experience, staff competence and the labor force skills of suppliers employees since it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction.

Key Words: *Financial Evaluation, Commercial Evaluation, Technical Evaluation, Quality Management Evaluation, Performance of Public Tertiary Training Institutions*

Introduction

There is a need to identify the strategic supplier related factors and include them in the supplier selection criteria. Some of the factors firms consider include trust and commitment, adequate finance, quality, reliable delivery times, adequate logistic and technological capabilities (Krause, Handfield, & Tyler, 2007). Materials delivery, quality, cost, financial position, communication and technology are recognized as the commonly used criteria a fact confirmed from empirical results as well as in previous literature. However other criteria such as ISO certification, reliability, credibility, good references and product development were are also necessary. Supplier evaluation strategy is important because it can assist an organization in assuring the right competences among procurement staff and the right tools to support an efficient administration, for example e-procurement; Support the achievement of organizational objectives by linking them with the procurement goals (Chen, 2011).

Beil and Ross (2009) argue that poor supplier selection criteria can cost the firm millions of loses due to recalls, warranty costs, and associated inventory adjustments, and have inflicted untold damage on their reputations and future sales potential. To avoid such dire consequences, it is paramount to have effective screening processes that help to identify top notch suppliers before awarding of contracts. Traditionally, the selections of suppliers are often based on the cost/price criterion. The cheapest supplier is usually selected without taking into consideration additional costs this supplier may introduce in the value chain of the purchasing organization. Thus, the costs related to unreliable delivery, limited quality of goods supplied, and poor communication are not involved in the selection process. Supplier decisions are one of the most important aspects that firms must incorporate into their strategic processes.

In order to select the right supplier, comprehensive and configurable metrics for supplier selection must be outlined early in the process. The supplier evaluation involves rating a supplier's value by measuring the selected supplier's capability and performance. For supplier selection, decision makers have defined a set of criteria to determine the performance of prospective suppliers both in the previous and current contracts. This enables decision makers to rank the order of their preferred suppliers. In reality, it is always a difficult task for purchasing managers to select the right supplier. This is due to the stringent and careful assessment of bidders' strengths and pitfalls which must be performed prior to the award of the contract, (Kenneth and Brian, 2006).

The Kenyan economy was and still is experiencing growth with the public and private sectors being engaged in numerous development projects amid expected socioeconomic and governance impacts due to Vision 2030 which on its own, has enlisted over 120 flagship projects in order to put the country in a new socio-economic and political pedestal. However, it is vital to note that despite this growth, a huge chunk of Kenya's public sector which includes County Governments is marred with spending staggering millions of tax payers' money on purchase of goods and services albeit having pitiable service delivery. It suffices to say; procurement managers are expected to contract with suppliers who provide value for their money, (Gian, 2012). 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, (Martin, 2004).

Statement of the Problem

Kenya's public service has become a liability to the government due to dismal performance hindering the realization of sustainable economic growth (ROK, 2012). Transparency international (TI) (2013) reported that 41% of Kenyans were dissatisfied with service delivery in the public sector. An exploratory survey by Crandal and Mutuku (2011) on Kenyan public Sector performance indicates that 45 % of the respondents have negative comments, citing complaints in relation to performance of the public sector. The Presidential Taskforce Report (2015) on the other hand has indicated low investments among public institutions in Kenya with overall, the public institutions generating less than 1Billion from investments against their high operations costs.
In the education sector, the Inter-University Council for East Africa Raised concerns in their report on a survey on employers on quality of graduates from the institutions of higher learning in Kenya. The survey revealed disturbing facts that between 51-63% of the graduates in Kenya were found to be unfit for jobs and lacking job market skills. In the year 2016, the Commission for higher education, ordered the closure of 11 constituent colleges due to poor quality services. Some of these challenges are as a result of high operational costs arising from activities such as shoddy procurement practices.

Statistics indicate inefficiency and ineptness of procurement practices in many public learning institutions in Kenya contributes to loss of over Ksh.50 million annually (Tom, 2015). The government losses close to Ksh. 121 billion, about 17% of the national budget due to inflated procurement quotations which occurs due to poor supplier selection criteria (KISM 2015).According to Kioko & Were (2014), procurement expenditure could be minimized through effective procurement practices such as comprehensive supplier selection criteria. Mutava (2016) has linked high operational costs arising from activities such as poor procurement performance to poor performance of the public sector. On the other hand, Ntayi (2014) observed that millions of dollars which could otherwise be used to improve performance of public institutions gets wasted through poor procurement practices. Despite this being the case, there is limited research conducted to establish the supplier evaluation criteria that exists in institutions of learning in Kenya, and rate that against its performance. This study therefore sought to establish how supplier selection criteria affect performance of Public tertiary training institutions in Kenya. One of the ways through which organizations strive to reduce supplier related inefficiencies is through determining the supplier selection criteria. In ideal situations, supplier selection criteria are expected to positively influence procurement performance. However it is puzzling to note that the relation has not been the case as studies reveal mixed findings with some indicating significant positive relationship while other indicates insignificant relationship. In the year 2015, the Ministry of Education lost 4.2 billion Kenyan shillings, in the year 2016, a total of Ksh. 33,061,925 is said to have been embezzled from “Kazi Kwa Vijana funds” (Daniel 2016).

Research Objectives

i. To establish the Influence of financial evaluation on performance of Public tertiary training institutions in Kenya
ii. To assess the Influence of commercial evaluation on performance of Public tertiary training institutions in Kenya
iii. To establish the Influence of technical evaluation on performance of Public tertiary training institutions in Kenya
iv. To analyze the Influence of quality management on performance of Public tertiary training institutions in Kenya

Theoretical Review

Transaction Cost Economics Theory

Greenwood and Scharfstein (2013) contends that without taking into account transaction costs as it is impossible to understand properly the working of the economic system and have a sound basis for establishing economic policy. Hart and Dwivedi (2010) aver that three key concepts are those of transaction costs, asset specificity, and asymmetrical information distribution. Beard, Sadri, Kangari, Augenbroe, Anumba and Roper (2011) avers that transaction costs are: (a) search and information costs, (b) bargaining and decision costs, and (c) policing and enforcement costs. In transaction of cost economics (TCE), the focus of the firm is to minimize the sum of transaction costs and production costs (Williamson 1979).

Transaction costs affect the firms' decisions on how they organize their activities, whether to move towards vertical integration (hierarchy) or to prefer market exchange. Thus, According to TCE, the decision of whether to collaborate or not should be based on the efficiency of governance. Transaction cost economics theory identifies and explains the conditions suitable for a firm to manage an economic exchange internally, and the conditions under which it should manage an economic exchange externally (Williamson 2005). TCE is important to the study of supplier management, as superior performance achieved in supply chain activities relative to competitors, explain how these activities can be supported by suppliers and how supplier selection/evaluation/development can contribute to the supply chain core competences (Dey 2010). Applying TCE underlies the aspects of efficiency and cost focus. As a summary, it can be said that these theory support the purpose of minimization of transaction costs, value creation through internal capabilities, (Ellram 2008). In this study TCE was used to establish the effect of financial evaluation on supplier selection criteria on performance of tertiary public training institutions in Kenya.

Internal Control Theory

Internal control is a process executed by the relevant authorities within an organization to ensure effectiveness in such areas like proper financial reporting, efficient operations, quality control as well as compliance with applicable laws and regulations. It is the first line of defense that aims at guarding against scams and detecting errors. A strong system will not only ensure that the goals and objectives of the organization are met but will also assist in elevating its image. Arad et al (2009) argues that the emergence and development of logical thoughts in recent decade required a new attention to control over business wealth with the hot topic being analyzing the cost-benefit of each control. Thus internal control helps managers achieve desired results through effective stewardship of resources. The study used this theory to assess the effect of commercial evaluation on supplier selection criteria on performance of tertiary public training institutions in Kenya.

Lean Supplier Competence Theory

The Lean Supplier Competence theory was developed by Marks (2007). The model evaluates the supplier against the five categories that supports the Lean techniques of Kaizen's continuous improvement. The Supplier Competency theory 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." The five categories and `specific behaviors' of the supplier to be evaluated are quality (Part specification, reliability and consistency, Preventative and Predictive Maintenance, Corrective Action Process) ; Delivery (Lead Times, Delivery Performance, Location of Supplier) ; Financials (Buyer's Cost of Quality, Supplier's Cost of Quality, Supplier's Infrastructure and stability, Buyer's Order Quantity Requirements); Operational Excellence (Vision and Mission, benchmark, Supplier's Company Culture, Supplier's Commitment to Waste Elimination) ; General Performance Measures (Training, Design, support services, capacity, reporting) (Marks, 2007).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).

Agency Theory

This theory was postulated by Fama (1980), agency theory is commonly referred to as the principal-agent theory; the theory formalizes assumptions about the distribution of property rights and information in the writing of contracts that define organizations. In particular, it focuses on the relationship between principals and agents who exercise authority on behalf of organizations (Fama and Jensen, 1983). The important assumptions underlying agency theory is that; potential goal conflicts exist between principals and agents; each party acts in its own self-interest; information asymmetry frequently exists between principals and agents; agents are more risk averse than the principal; and efficiency is the effectiveness criterion. Two potential problems stemming from these assumptions may arise in agency relationships: an agency problem and a risk-sharing problem (Xingxing 2012).

An agency problem appears when agents' goals differ from the principals' and it is difficult or expensive to verify whether agents have appropriately performed the delegated work (i.e. moral hazard). This problem also arises when it is difficult or expensive to verify that agents have the expertise to perform the delegated work (i.e. adverse selection) that they claim to have. A risk-sharing problem arises when principals and agents have different attitudes towards risk that cause disagreements about actions to be taken (Xingxing 2012). In the process of managing supplier quality, buyers in agency relations are faced with potential problems. By their nature, buyers expect suppliers to provide good quality and to improve the quality of supplied products and/or services, but suppliers may be reluctant to invest substantially in quality, especially if they perceive that buyers are reaping all the benefits, (Xingxing 2012). Agency theory determines how procurement managers ensure proper supplier selection on behalf of tertiary public training institutions. Existence of conflict of interest amongst the agents leads to inappropriate supplier selection which leads to increased procurement budget and loss of procurement funds. The study used this model to determine the influence of quality management on supplier selection criteria on performance of tertiary public training institutions in Kenya.

Conceptual Framework

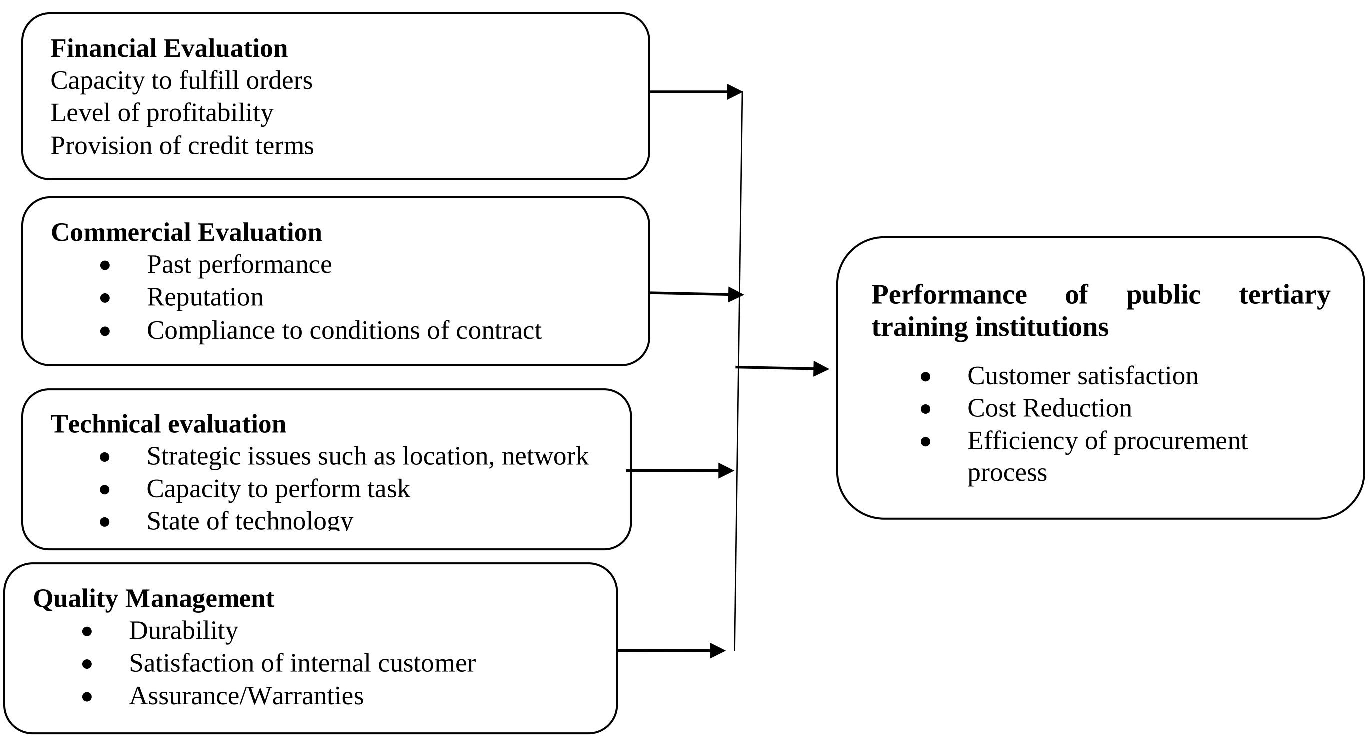

Figure 1 Conceptual Framework

Research Methodology

The study adopted a descriptive research design. Descriptive research was appropriate as it generally allowed the researcher to make comprehensive inferences about the investigated variables in the target populations (Burns et al, 2000). The study population comprised all the 78 tertiary public training institutions in Kenya. According to Inspectorate of State Corporations of Kenya (2016), tertiary public training institutions in Kenya comprise 78 technical training colleges. The study targeted one staff working in procurement related areas since they are the ones involved in the execution of key procurement management decisions and hence have technical knowledge and skills on the influence of supplier selection criteria on the performance of tertiary public training institutions in Kenya. The study used simple random sampling technique. This is because the number of targeted population is small; the study employed a census where all respondents were involved in the study.

The study made use of primary forms of data. Primary data was collected using self-administered questionnaires. The questionnaires were divided into sections representing the various variables adopted for study. Each section of the chosen study included structured questions which sought the views, opinion, and attitude from the respondent in a Likert format. The questions were designed to collect quantitative data. A pilot study was conducted on a set of 5 respondents which is 10% of the target population of the study for comprehension, logic and relevance. Descriptive and inferential statistics was used to analyze the primary data. Descriptive statistics includes mean, frequencies and standard deviation. Inferential statistics on the other hand includes correlation and regression analysis. To determine the extent to which influence of supplier selection criteria on performance of public tertiary training institutions in Kenya, the following regression model was adopted:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where; Y = Performance of public tertiary training institution, β_{i-4}= coefficients for the various independent variables, X1 = Financial evaluation, X2 = Commercial evaluation, X3 = Technical evaluation, X4= Quality Management and E is the error term which is assumed to be normally distributed with mean zero and constant variance. The study tested significance of independent variables versus the dependent variable at 5% level of significance.

Results

A total of 78 questionnaires were administered out of which 49 of them were properly filled and returned representing 62.8% percent response rate. According to Saunders, *et al.*, (2007), a response rate of above 50% is adequate, 60% is good and a response rate of over 70% is very good. Thus, the response rate of 62.8% was considered representative of the respondents to provide information for analysis and deemed acceptable for making statistical inferences. The pilot test results were carried out on 5 respondents who were not included in the final survey indicated that all the variables had Cronbach alpha coefficients higher than 0.7. This is in line with Cronbach (1951) reliability threshold 0.7.

Demographics Information

Table 1 Demographic Information

Demographic Characteristic	Category	Percentage
Respondents Level of education	Post Graduate	36%
	Bachelors Degree	56%
	Diploma	8%
Respondents Work Experience	Less than 3 years	12%
	Between 3-5 years	29%
	Between 6 years	59%

Financial Evaluation

The study sought to establish the influence of financial evaluation on performance of Public tertiary training institutions in Kenya. The findings revealed that there was agreement that supplier's profitability, financial position, credit worthiness and ability to provide credit terms is evaluated by the public tertiary training institutions as shown by average response of 3.88, 4.02, 4.10 and 4.04 on a scale of 1 to 5. The findings further showed that there was agreement with the statements that the capital turnover and credit rating of the suppliers is also evaluated as shown by average response of 4.00 and 4.12. It was however revealed that there is no conclusively in evaluation of the supplier's cash flow as shown by an average response of 3.41 on a scale of 1 to 5. On average, an overall mean response of 3.94 revealed an agreement with practicing various financial evaluation practices. The findings are consistent with Pamela (2013) who established that evaluation of various financial indicators of suppliers such as financial positions, credit worthiness, total assets and profitability is key to ensuring continued supply after they are prequalified.

Table 2 Descriptive Statistics of Financial Evaluation

Statement	Mean	Std Dev
Suppliers profitability level is evaluated	3.88	1.15
Suppliers financial position is evaluated	4.02	1.03
The credit worthiness of the supplier is evaluated	4.10	0.96
Suppliers ability to provide credit terms is evaluated	4.04	1.02
The capital turnover of the suppliers is evaluated	4.00	1.21
The suppliers credit rating is evaluated	4.12	1.30
The cash flow of suppliers is evaluated	3.41	1.35
Average	**3.94**	**1.15**

Commercial Evaluation

The study sought to assess the Influence of commercial evaluation on performance of Public tertiary training institutions in Kenya. The findings revealed an agreement with the statements that suppliers past performance, reputation, compliance to conditions of the contract and customer relationship management is evaluated as shown by average responses of 4.08, 3.57, 4.10 and 4.08 respectively. The findings also revealed that there was an agreement with the statements that there is evaluation of the supplier's operational speed, ability to deliver the right quantity and reliability as shown by average responses of 4.02, 3.51 and 3.61 respectively. On average, an overall mean response of 3.85 revealed an agreement with practicing various commercial evaluation practices. The findings are consistent with Jankiraman and Gopal (2006), who revealed that it was important to evaluate the commercial aspect of the supplier in terms of their experience, performance and delivery so as to minimize risks that may come as a result of delayed services.

Table 3 Descriptive Statistics of Commercial Evaluation

Statement	Mean	Std Dev
Suppliers past performance is evaluated	4.08	1.29
Suppliers reputation is evaluated	3.57	1.50
Suppliers compliance to conditions of the contract is evaluated	4.10	0.96
Suppliers customer relationship management is evaluated	4.08	1.02
There is evaluation of the supplier's operational speed	4.02	0.98
The supplier's ability to deliver the right quantity is evaluated	3.51	1.42
Supplier's reliability is evaluated	3.61	1.06
Average	3.85	1.17

Technical Evaluation

The study sought to establish the Influence of technical evaluation on performance of Public tertiary training institutions in Kenya. The findings showed an agreement that pubic tertiary training institutions in Kenya evaluate supplier's capacity to perform tasks, strategic location, network and state of technology before pre-qualifying them as shown by mean response rates of 3.78, 4.12, 4.11 and 4.04 respectively on a scale of 1 to 5. The findings also showed that the respondents agreed that they evaluate the supplier's production experience, staff competence and the labor force skills of its employees before prequalification as shown by average response rates of 4.71, 4.57 and 3.80 respectively on a scale of 1 to 5. On average, a mean response of 4.16 indicates an agreement that technical evaluation is conducted by the Public tertiary training institutions. The findings are consistent with the findings of a study by Kamenya (2014) on the relationship between supplier evaluation and performance in large food and beverage manufacturing firms in Nairobi and established that among the key factors to be evaluated is suppliers technical ability in terms of technology used for production as well as the capacity of its employees to deliver the required goods.

Table 4 Descriptive Statistics of Technical Evaluation

Statement	Mean	Std Dev
Suppliers capacity to perform tasks is evaluated	3.78	1.15
Suppliers strategic location is evaluated	4.12	1.03
Suppliers network is evaluated	4.11	0.96
Suppliers state of technology is evaluated	4.04	1.02
Suppliers production experience is evaluated	4.71	0.46
Suppliers staff competence is evaluated	4.57	0.76
Labour force skills of the suppliers employees is evaluated	3.80	1.40
Average	**4.16**	**0.97**

Quality Management Evaluation

The study sought to establish the influence of quality management on performance of Public tertiary training institutions in Kenya. It was established that there was an agreement with the statements that among the public tertiary training institutions, durability of suppliers goods, satisfaction of suppliers internal customers, supplier's availability and adherence to warranty and adherence to set standards is evaluated as shown by average response rate of 3.57, 4.63, 4.80 and 4.10 respectively on a scale of 1 to 5. It was also shown that there was agreement with statements that suppliers' membership in quality assurance bodies is evaluated; there is assessment of available testimonials from past customer of the supplier as well as evaluation of the existing quality management policies of the suppliers as shown by average response rates of 4.04, 4.16 and 3.76 respectively. On average, it was revealed that there is quality management evaluation of suppliers among the Public tertiary training institutions in Kenya before awarding them a job. The findings are consistent with

Mwikali and Kavale (2012) who revealed importance of evaluating the quality management of suppliers so as to reduce procurements costs regarding counterfeits and poor quality products.

Table 5 Descriptive Statistics of Quality Management Evaluation

Statement	Mean	Std
Durability of suppliers goods is evaluated	3.57	1.32
Satisfaction of suppliers internal customers is evaluated	4.63	0.78
The suppliers availability and adherence to warranty is normally evaluated	4.80	0.41
There is establishment of suppliers adherence to set standards	4.10	0.96
Suppliers membership in quality assurance bodies is evaluated	4.04	1.02
There is assessment of available testimonials from past customer of the supplier	4.16	1.05
There is evaluation of the existing quality management policies of the suppliers	3.76	1.15
Average	**4.15**	**0.96**

Performance of Public Tertiary Training Institutions in Kenya

There study sought to assess the performance indicators of the Public tertiary training institutions in Kenya. The respondents were asked to indicate the extent to which various indicators of performance had changed. The findings revealed that on average, the respondents agreed that Public tertiary training institutions in Kenya had shown an improvement in cost efficiency, reduction in procurement costs and improvement in customer satisfaction rating to a high extent as shown by average mean of 3.88, 4.02 and 4.10 respectively. It was also shown that there has been an improvement in procurement lead time and increased quality sourcing (Reduced counterfeits) to a high extent as shown by means of 4.16 and 3.76 respectively.

Table 6 Descriptive Statistics of Performance of Public Tertiary Training Institutions

Statement	Mean	Std Dev
Improvement in cost efficiency	3.88	1.15
Reduction in procurement costs	4.02	1.03
Improvement in customer satisfaction rating	4.10	0.96
Reduction in customer complaints	4.04	1.02
Improvement in procurement lead time	4.16	1.05
Increased quality sourcing (Reduced counterfeits)	3.76	1.15
Average	**3.99**	**1.06**

The study also sought to establish the changes in the complaints and compliments which are indicators of performance in the public sector. This was done by evaluating the compliments and complaints for the last five years in the institutions. It was established that over the last five years, the number of compliments have on average been increasing in the public tertiary training institutions although at a very slow rate. This justifies that there is a challenge with performance. On the other hand, the number of complaints have been decreasing albeit at a slow rate too.

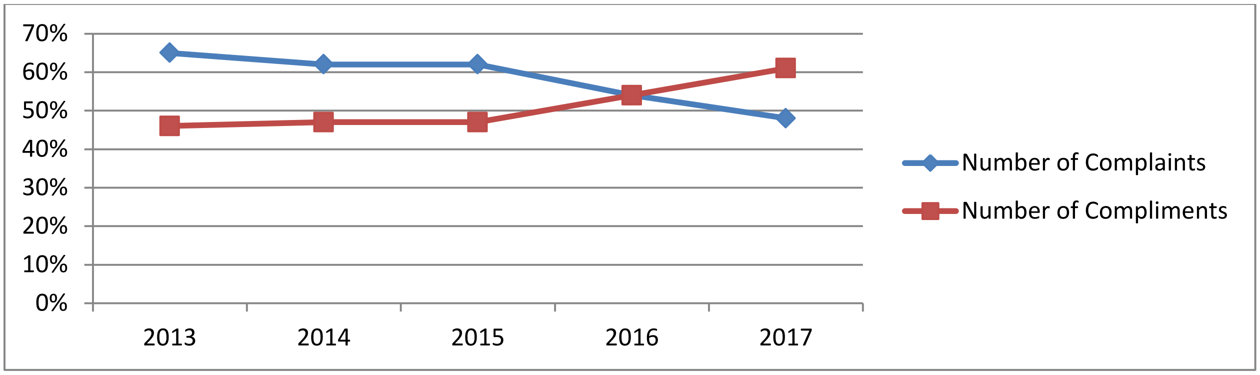

Figure 2 Changes in Complaints and Compliments

Correlation analysis

The study carried out correlation tests so as to examine the association among the variables. The findings indicated that the influence of financial evaluation on performance of public tertiary training institutions in Kenya is positive and significant (Pearson Coefficient = 0.813, Sig = 0.000, <0.05). These results imply that when there is an improvement in financial evaluation of suppliers in terms of supplier's profitability, financial position, credit worthiness, ability to provide credit, capital turnover and credit rating, it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. The findings are consistent with Wangui (2014) who established the strategic supplier related factors affecting the performance of the procurement function in the service industry and showed that financial stability of suppliers; past performance and reliability of suppliers have a significant effect on performance of procurement function.

It was also shown that the influence of technical evaluation on performance of public tertiary training institutions in Kenya is positive and significant (Pearson Coefficient = 0.678, Sig = 0.000, <0.05). The findings imply that when there is an improvement in technical evaluation of suppliers in terms of supplier's capacity to perform tasks, strategic location, network, state of technology, production experience, staff competence and the labour force skills of suppliers employees, it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. The findings of the study are consistent with that of a study by Pirzadeh, Hamid and Sukati (2013) who focused on supplier's capabilities and its influence on competitive advantage in automotive industry and stated that a positive and significant relationship exists among the three supplier capabilities which are production, technical capability and research and development (R&D) and competitive advantage.

The findings also revealed that the influence of quality management evaluation on performance of public tertiary training institutions in Kenya is positive and significant (Pearson Coefficient = 0.730, Sig = 0.000, <0.05). The findings imply that when there is an improvement in quality management evaluation of suppliers in terms of durability of suppliers goods, satisfaction of suppliers internal customers, supplier's availability, adherence to warranty and adherence to set standards, suppliers membership in quality assurance bodies, assessment of available testimonials from past customer of the supplier as well as evaluation of the existing quality management policies of the suppliers, it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. The findings are consistent with Jankiraman and Gopal (2006) who noted that the relationship between quality, profitability and performance is quite evident whereby, good performance is virtually guaranteed if quality is present.

The findings however showed that the influence of commercial evaluation on performance of public tertiary training institutions in Kenya is positive but not significant (Pearson Coefficient = 0.161, Sig = 0.270, > 0.05). The findings imply that an evaluation of the supplier's commercial practices such as past performance, reputation, compliance to conditions of the contract, customer relationship management, operational speed, ability to deliver the right quantity and reliability leads to an improvement in performance. The improvement is however not as high as when financial, quality management and technical evaluation was conducted. The findings are consistent with Trevor *et al* (2013) who conducted a study, which focused on establishing the extent to which supplier culture and commercial activities affect the performance of an organization's supply and found a positive correlation between the variables.

Table 7 Correlation analysis

		Financial Evaluation	Commercial Evaluation	Technical Evaluation	Quality Management Evaluation	Performance
Financial Evaluation	Pearson Correlation	1				
Commercial Evaluation	Pearson Correlation	0.172	1			
Technical Evaluation	Pearson Correlation	.615**	0.243	1		
Quality Management Evaluation	Pearson Correlation	.644**	.400**	.419**	1	
Performance	Pearson Correlation	.813**	0.161	.678**	.730**	1
	Sig. (2-tailed)	0.000	0.270	0.000	0.000	

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

Regression Analysis Results

The study used multivariate regression model to determine the influence of supplier selection criteria on performance of Public tertiary training institutions in Kenya. The model summary regression results showed that R was 0.892 which indicating that the correlation between the joint predictor variables (Quality Management Evaluation, Commercial Evaluation, Technical Evaluation and Financial Evaluation) and dependent variable (performance of Public tertiary training institutions in Kenya) is positive.

This implies that an improvement in supplier selection criteria leads to an improvement in performance of Public tertiary training institutions in Kenya. This is consistent with Beil and Ross (2009) who revealed the positive influence of supplier selection criteria on performance through costs reduction. The coefficient of determination explains the percentage of variation in the dependent variable (performance) that is explained by all the four independent variables (Quality Management Evaluation, Commercial Evaluation, Technical Evaluation and Financial Evaluation). The coefficient of determination also called the R^2 was 0.797. This means that the supplier selection criteria involving Quality Management Evaluation, Commercial Evaluation, Technical Evaluation and Financial Evaluationexplain79.7% of the performance of Public tertiary training institutions in Kenya. This therefore means that other factors not studied in this research contribute the remaining 20.3% of the variation.

Table 8 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.892	0.797	0.778	0.2789

Predictors: (Constant), Quality Management Evaluation, Commercial Evaluation, Technical Evaluation, Financial Evaluation

The F value of 43.059 is significant at a significance value of 0.000 which is less than 0.05 at 5% level of significance. This shows that the overall model lining the four indicators of supplier selection criteria to Pperformance of Public Tertiary Training Institutions was significant. This shows that Quality Management Evaluation, Commercial Evaluation, Technical Evaluation and Financial Evaluationcan be used to significantly predict Pperformance of Public Tertiary Training Institutions. It also shows that the model fit well hence it is reliable in making conclusions. The findings have been collaborated by comparing the F calculated from the data (43.059) against the F critical obtained from the F distribution table using $df_{1,4}$ and $df_{2,44}$ at 5% level of significance to give 2.584. Since F calculated is greater than F critical, this justifies the previous findings that the model was significant.

Table 9 Analysis of Variance (Overall Model Significance)

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.395	4	3.349	43.059	.000
Residual	3.422	44	0.078		
Total	16.817	48			

The findings indicated that financial evaluation has a positive and significant influence on performance of Pperformance of Public Tertiary Training Institutions (Beta coefficient = 0.362, Sig = 0.001). The findings imply that a 1% unit increase in financial evaluation of suppliers among Public Tertiary Training Institutions leads to a 0.362% increase in performance The findings are consistent with Wangui (2014) who established the strategic supplier related factors affecting the performance of the procurement function in the service industry and showed that financial stability of suppliers; past performance and reliability of suppliers have a significant effect on performance of procurement function. The findings also indicated that commercial evaluation has a positive but not significant influence on performance of Pperformance of Public Tertiary Training Institutions (Beta coefficient = 0.135, Sig = 0.064). The findings imply that a 1% unit increase in commercial evaluation of suppliers among Public Tertiary Training Institutions leads to a 0.135% increase in performance. However the increase is not significant. The findings are consistent with, Pacini and Spagnolo (2012) who argued that commercial evaluation of suppliers in terms of past experience, performance and conformity to agreements improves performance through reduced lead time and costs.

Moreover, the results indicated that technical evaluation has a positive and significant influence on performance of Pperformance of Public Tertiary Training Institutions (Beta coefficient = 0.377, Sig = 0.001). The findings imply that a 1% unit increase in technical evaluation of suppliers among Public Tertiary Training Institutions leads to a 0.377% increase in performance. The findings of the study are consistent with the findings of a study by Kiprotich and Okello (2014) that determined the effect of supplier evaluation on performance of procurement function of Public Universities and revealed that suppliers' technical capability has a significant effect on performance of procurement of procurement function of public universities campuses in Kericho County. The findings also revealed that quality management evaluation has a positive and significant influence on performance of Pperformance of Public Tertiary Training Institutions (Beta coefficient = 0.631, Sig = 0.000). The findings imply that a 1% unit increase in quality management evaluation of suppliers among Public Tertiary Training Institutions leads to a 0.631% increase in performance. The findings are consistent with Arsan and Shank (2011) who carried out a study on analysis of supplier evaluation and established that selecting vendors that practice quality management provide quality products that conform to the firm's requirements thus saving time and money and improving performance thereof.

Table 10 Regression Coefficients

	Unstandardized Coefficients		**Standardized Coefficients**		
Independent Variables	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	1.098	0.496		2.213	0.032
Financial Evaluation	0.362	0.098	0.385	3.686	0.001
Commercial Evaluation	0.135	0.071	0.144	1.897	0.064
Technical Evaluation	0.377	0.109	0.304	3.463	0.001
Quality Management Evaluation	0.631	0.147	0.412	4.280	0.000
Dependent Variable: Performance of Public tertiary training institutions in Kenya					

This optimal regression model reveals that only three supplier selection criteria, that is, Quality Management Evaluation, Financial Evaluation and Technical Evaluation significantly influence performance of Performance of Public Tertiary Training Institutions in Kenya. The criteria that has the most significance a head of the rest is quality management evaluation which has a high t-statistic, followed by financial evaluation and then technical evaluation. The influence of commercial evaluation is not significant.

Conclusions

The findings led to the conclusion that when there is an improvement in financial evaluation of suppliers in terms of supplier's profitability, financial position, credit worthiness, ability to provide credit, capital turnover and credit rating, it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. The study also concludes that when there is an improvement in technical evaluation of suppliers in terms of supplier's capacity to perform tasks, strategic location, network, state of technology, production experience, staff competence and the labour force skills of suppliers employees, it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction.

Another conclusion made by the study is that when there is an improvement in quality management evaluation of suppliers in terms of durability of suppliers goods, satisfaction of suppliers internal customers, supplier's availability, adherence to warranty and adherence to set standards, suppliers membership in quality assurance bodies, assessment of available testimonials from past customer of the supplier as well as evaluation of the existing quality management policies of the suppliers, it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. Lastly, the study concluded that an evaluation of the supplier's commercial practices such as past performance, reputation, compliance to conditions of the contract, customer relationship management, operational speed, ability to deliver the right quantity and reliability leads to an improvement in performance. The improvement is however not as high as when financial, quality management and technical evaluation was conducted.

Recommendations of the study

The study recommends public tertiary training institutions to improve their performance by evaluating the financial status of their suppliers more in terms of profitability, financial position, and credit worthiness, ability to provide credit, capital turnover and credit rating. This will lead to a significant improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. The study recommends that public tertiary training institutions should aim to improve their supplier's commercial practices evaluation in terms of past performance, reputation, compliance to conditions of the contract, customer relationship management, operational speed, ability to deliver the right quantity and reliability so as to have an improvement in performance.

The study also recommends the public tertiary training institutions to improve their technical evaluation of suppliers in terms of supplier's capacity to perform tasks, strategic location, network, state of technology, production experience, staff competence and the labour force skills of suppliers employees since it significantly leads to an improvement in the performance of the organization in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction. There is a need for the public tertiary training institutions to improve their quality management evaluation of suppliers in terms of durability of suppliers goods, satisfaction of suppliers internal customers, supplier's availability, adherence to warranty and adherence to set standards, suppliers membership in quality assurance bodies, assessment of available testimonials from past customer of the supplier as well as evaluation of the existing quality management policies of the suppliers so as to significantly improve their performance in terms of reduced lead time, operational costs, procurement costs and improved customer satisfaction.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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