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Influence of Supplier Appraisal Criteria on Procurement Performance of Petroleum Companies in Kenya: A Case of Dalbit Petroleum Limited

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Abstract: In the Kenyan, constant oil shortages are normally experienced from time to time and as the Petroleum Institute of East Africa (2016) report indicate, the problem of fuel adulteration, fluctuations in price, high demand and supply in Kenya remains a challenge where complains on the quality of products received is questionable. This places a question as to whether a good supplier appraisal system has been put in place by the 100 oil marketing companies in Kenya of which Dalbit is a member. The study focused on the influence of supplier appraisal criteria on procurement performance of petroleum companies in Kenya with reference to Dalbit Petroleum Limited. Specifically the study seeks to establish how supplier's financial status, supplier's capacity, supplier's quality of goods and services and supplier's technical capability influence procurement performance of oil marketing companies. The study adopted a descriptive research design. The target population for this research study was 120 respondents in management positions at Dalbit Petroleum Limited comprising of directors, managers, assistant managers, supervisors, team leaders and assistant team leaders. Descriptive statistics such as, mean and frequencies and inferential statistics (regression and correlation analysis) were used to perform data analysis. A multiple linear regression analysis model was used to test the hypotheses and link the variables. The findings indicated that appraisal of supplier's financial status and quality of goods has a significant influence on procurement performance while technical capability and capacity has a positive but insignificant influence on procurement performance. The study recommends that the petroleum companies should increase the frequency of conducting appraisal of financial status of the supplier's, appraisal of the capacity of the suppliers, Storage capacity and suppliers quality of goods.

Keywords: *Supplier's financial status, Supplier's Technical Capability, Procurement Performance, Petroleum Companies in Kenya.*

Introduction

According to Monczka, Handfield and Giunipero (2009) supplier evaluation is a continual process within purchasing departments and forms part of the pre-qualification step within the purchasing process; although in many organizations it includes the participation and input of other departments and stakeholders. Most experts or firms experienced in collecting supplier evaluation information prefer doing so using five-step processes for determining which to approve. Their processes often take the form of either a questionnaire or interview, sometimes even a site visit, and include appraisals of various aspects of the supplier's business including capacity, financials, quality assurance, organizational structure and processes and performance. Based on the information obtained via the evaluation, a supplier is scored and either approved or not approved as one from whom to procure materials or services. In many organizations, there is an approved supplier list (ASL) to which a qualified supplier is then added. If rejected the supplier is generally not made available to the assessing company's procurement team. Once approved, a supplier may be re-evaluated on a periodic, often annual, basis. The ongoing process is defined as supplier performance management. It is the role of procurement entity in an organization including Petroleum Companies to ensure that the process is done at the right time in the sourcing process.

Andy (2008) argues that supplier appraisal should be identified within that process of sourcing given that it is an important role for purchasing and supply due to current requirement by many consumers and the increasing competition in the market, there must be a lot of emphasis on sourcing strategy and this depends on efficient supplier evaluation. Supplier audits even in Petroleum Companies is undertaken in order to ensure that supplier systems, practices, and procedures are defined, controlled and implemented as per the customer requirements. Ivancevich (2006) stresses that such audits or assessments should also be conducted as pre contract award to verify supplier capabilities, capacities and qualifications against specific contractual requirements. For Petroleum Companies to perform well it is important to select suppliers who are reliable and are able to meet the companies expectation in supplies requirement. There certain qualities that should be included in the evaluation process. Dobler (2010) while quoting a definition of Professor Wilbur England of Harvard University stated that a good supplier should be one who is at all times honest and fair in his dealing with the customers, his own employees, and himself and one who has adequate plant facilities.

Statement of the problem

Selecting the most appropriate source of supplies has long been regarded as one of procurement's most important functions (Ogden *et al*., 2008). The failure of suppliers to meet the deadlines and supply materials as and when required leads to huge losses in the supply chain operations. Whenever this happens in the oil industry, the consequences are felt across the economy. In the Kenyan oil sector, constant oil shortages are normally experienced from time to time and as the Petroleum Institute of East Africa (2016) report indicate, the problem of fuel adulteration, fuel shortages and fluctuations in oil prices in Kenya remains a challenge. Furthermore, complains on the quality of oil products has also increased. According to the PIEA (2016) report, adulteration has increased as evidenced by a 52% increase in consumption of Illuminating Kerosene which is driven by adulteration malpractices given the corresponding untamed incidences of petroleum retail stations that have posted positive for IK in AGO. The report indicate that the number of fuel adulteration 'dens' has also increased along the Northern corridor. The report also indicates that in Kenya, the demand for fuel consumption increased by 20% in last year while the supply was not enough to take care of this high demand leading to fuel shortages.

A good supplier appraisal system can reduce these problems. But that doesn't seem to be the case. This places a question as to whether a good supplier appraisal system has been put in place by the 100 oil marketing companies in Kenya of which Dalbit is a member. Studies have indicated that such supply chain issues can be solved by having a proper supplier appraisal because of the positive relationship between the two (Lysons et al., 2008). Specifically, Murigi (2014) argues that supplier appraisal has a direct correlation to the overall performance of the procurement process with 57.1% of the performance of the procurement process being directly determined by the supplier evaluation and appraisal criteria. So based on the argument by the scholars that proper supplier appraisal improves procurement performance, and the fact that the Kenyan oil sector still experiences massive procurement performance failures as indicated by PIEA (2016) report, there is a need to conduct a study to investigate the supplier appraisal practices conducted by the oil marketing companies and its influence on procurement performance so as to solve this problem in the Kenyan oil sector.

Furthermore, previous studies conducted reveal that the supplier evaluation criteria include: location of supplier, adequate facilities, use of information technology, financial strength, quality in operations and products, adequate production capacity, and skilled personnel, corporate social responsibility and good ethics and environmental. Even though the supplier evaluation criteria are widely discussed, studies incorporating the technical, financial and capacity attributes of the supplier are scanty. There was a need to fill this conceptual gap by conducting a study that brings on board all the three attributes of a supplier since Cheraghi *et al*. (2011) supports the argument. Furthermore, as several studies have been done in this area, it is important to investigate the conclusion made by these studies to establish whether similar conclusion can be reached when using different methodology and contexts since the reviewed studies have mainly focused on manufacturing companies. Equally since most studies did not investigate causal relationships between evaluation criteria and performance it is necessary to find out this. The current study hence sought to investigate the influence of supplier appraisal criteria on procurement performance of petroleum companies in Kenya with reference to Dalbit Petroleum Limited.

Study Objectives

i. To establish the influence of supplier's financial status on procurement performance of petroleum companies in Kenya
ii. To determine the influence of supplier's capacity on procurement performance of petroleum companies in Kenya
iii. To assess the influence of supplier's quality of goods and services on procurement performance of petroleum companies in Kenya
iv. To find out the influence of supplier's technical capability on procurement performance of petroleum companies in Kenya

Literature Review

Theoretical Literature Review

The Lean Supplier Competence Model

The Lean Supplier Competence Model was developed by Marks (2007). 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. The theory indicates these factors among the key factors to be evaluated in a supplier. This theory is relevant in supplier selection since it advocates for working together. It is particularly important for an organization that is intending to foster lasting supplier relationship 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).

Resource Based View Theory

The resource based view theory perspective argues that sustained competitive advantage is generated by the unique bundle of resources at the core of the firm (Corner & Prahalad, 2007). According to RBV proponents, it is much more feasible to exploit external opportunities using existing resources in a new way rather than trying to acquire new skills for each different opportunity. The theory plays a critical role in underpinning two independent variables of the study which are supplier financial status, capacity and technical capability. A firm with better financial ground, capacity and technical capability is expected to perform better than its competitors. Better performance is an indicator of sustainability and suppliers who are sustainable will ensure continuous production and supply thus leading to reduced shortages hence better procurement performance for their clients.

Grey System Theory

Grey system theory was first introduced in early 1980s by Deng (1982). 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. The theory of Grey System considers the following factors in deciding on the best supplier; Existence of key factors important to the buyer, the numbers of factors are limited and countable and can be directly attributed to potential suppliers, in dependability of factors and factor expandability. The theory applies the principle of series comparability to generate a grey relation. An evaluation matrix may be developed to facilitate this process. The best supplier is selected by choosing a goal and weighting the values of all evaluation factors based on the characteristics of materials to be sourced based on demand patterns (Zou, 2008).

Conceptual Framework

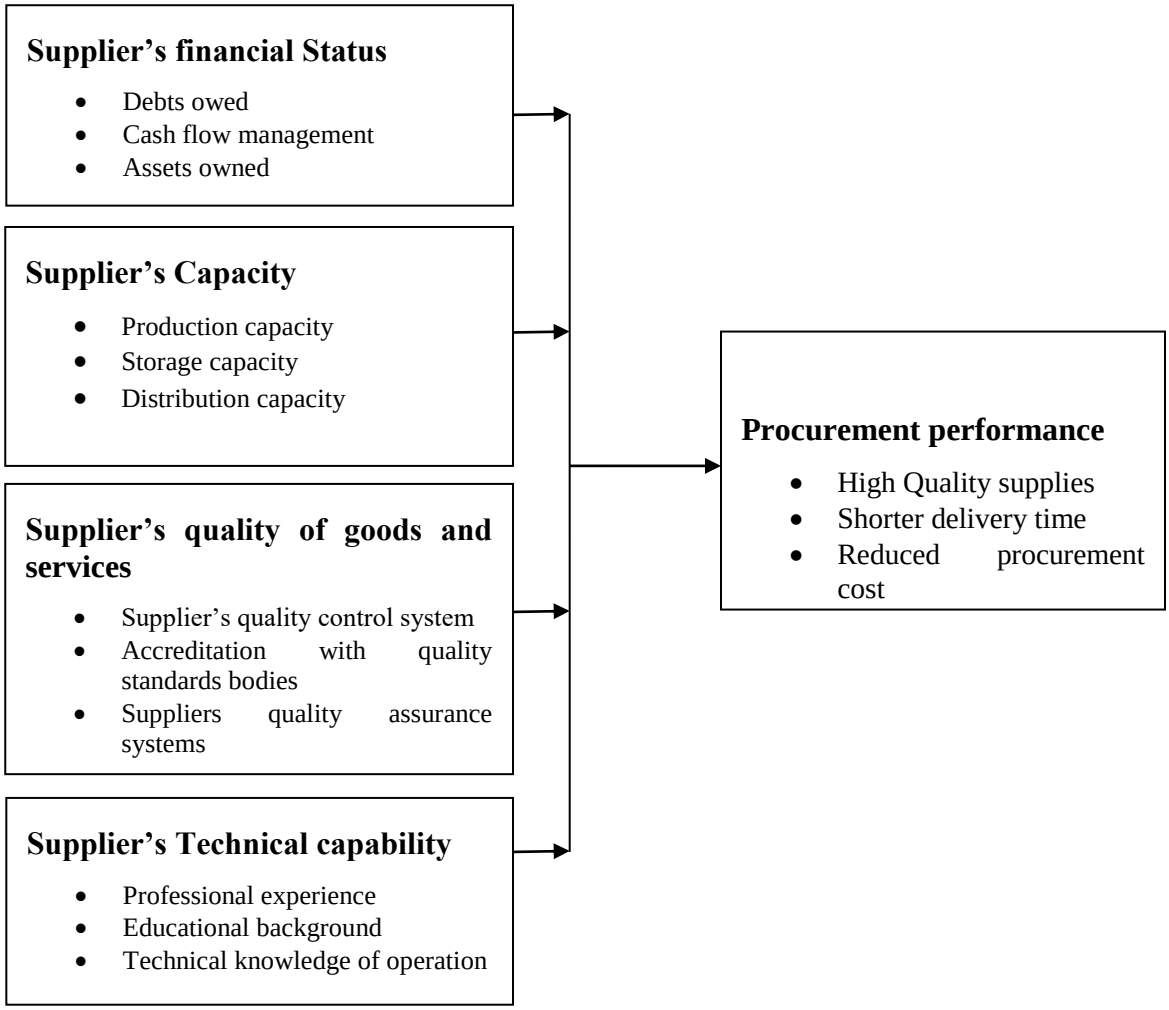

Figure 1: Conceptual Frame work

Research Methodology

The study adopted a descriptive study design in order to bring out the relationships between the variables. The design is good in answering the how, what, when and which questions. The choice of the design is because of its suitability in answering the research questions used in this study. The target population for this research study were 120 respondents in management positions at Dalbit Petroleum Limited comprising of directors, managers, assistant managers, supervisors, team leaders and assistant team leaders.

The study used Krejcie & Morgan (1970) formula below to determine the sample size. $S = \underline{X^2NP(1-P) / d^2} (N-1) + X^2P (1-P$ to establish 91 respondents. The study used primary data. Questionnaires were used to obtain data from the study respondents.

Descriptive analysis was the first step; it showed percentages and means of different items in the study. Pearson's correlation, regression analysis and analysis of variance (ANOVA) was used. The multiple regression model is laid as below. $Y= \beta_0+ \beta_1X_1+ \beta_2X_2+ \beta_3X_3+ \beta_4X4+ \varepsilon$, Where: Y = Procurement performance, X1= Supplier financial status , X_2 = Supplier Capacity , X_3 = Supplier quality of goods and services, X_4 = Supplier Technical Capacity, ε is error term, β_0 represents the constant, $\beta_{1,2,3,4}$ are regression coefficients

Research Findings and Discussions

Response Rate

The number of questionnaires that were administered was 91. A total of 52 questionnaires were properly filled and returned. This represented an overall successful response rate of 57% as shown on Figure 2. Finchman (2008) argues that a response return rate of more than 50% is enough for the study to continue. This response rate was, therefore considered representative of the respondents to provide information for analysis and deemed acceptable for making statistical inferences. A response rate of 57% was hence acceptable for the study. The high response rate was achieved because the method of drop and pick was effective.

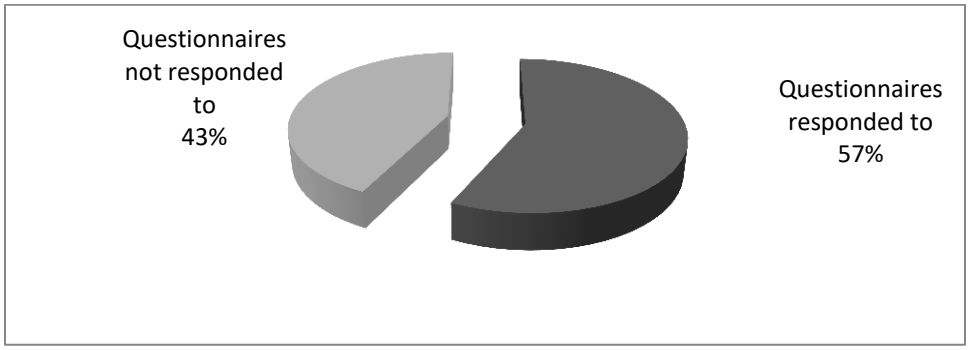

Figure 2 Response Rate

Demographics Analysis

Respondent's Level of education

The study findings revealed that all the 52 respondents had university level education. The findings imply that employees in management positions from the transportation and Logistics; finance and accounts, Operations and administration and Sales and Marketing Departments have high intellectual capacity. This shows that they could interpret the questions in the questionnaires well and respond accordingly. This enhances the reliability of the data collected. Bashir & Durrani (2014) relates high educational level to higher employment positions.

Respondent's Number of Years in the oil industry

The respondents were asked to indicate the number of years they had worked in their current position in the oil industry. Figure 4.2 shows that only 6% of the respondents had worked between 1 and 2 years.

The results also indicate 15% had a work experience of between 3 and 5 years and majority 79% of the respondents indicated they had worked for over 5 years. This showed that they had high institutional understanding and were hence appropriate for the study because they had understanding of the oil sector operations.

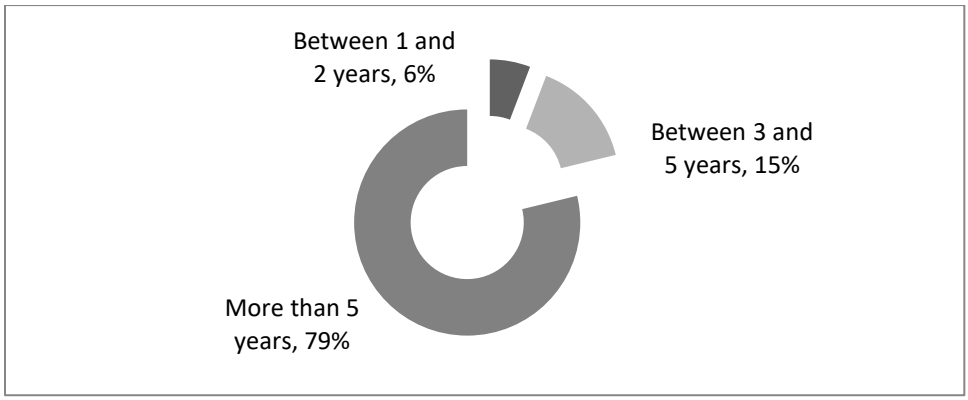

Figure 3 Respondents Number of Years in the oil industry

Respondent's number of years as a staff in Supply chain

The respondents were asked to indicate the number of years they had worked as a staff in supply chain. Figure 4 shows that only 5.8% of the respondents had worked for a period between 1 and 2 years. The results also indicate 15.4% had a work experience of between 3 and 5 years and majority 78.8% indicated they had worked for over 5 years. This contributed greatly to their institutional understanding and was hence appropriate for the study because they had understanding of the oil sector operations. This is in line with Ondari (2015) who links high work experience to more information about the industry as well as more awareness and knowledge.

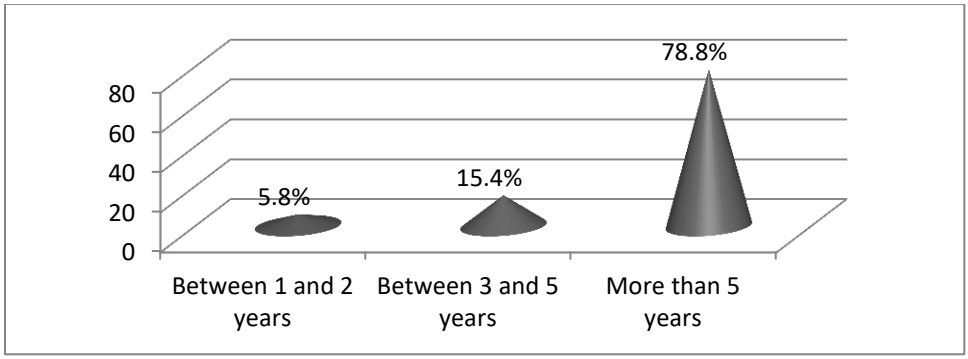

Figure 4 Respondent's number of years as a staff in Supply chain

Respondents Age

The respondents were asked to indicate their age bracket. The findings shows that 13.5% of the respondents were aged 51 years and above, majority 46.2% were between 41 and 50 years and 21.2% were aged between 30 and 40 years. Lastly, 19.2% were aged less than 30 years. The findings imply that majority of employees in management positions in the oil marketing companies are aged over 31 years and this corresponds to the high work experience indicated in Figure 5. This confirms argument by Bowen & Staudinger (2012) that promotions to senior positions are linked to age and experience.

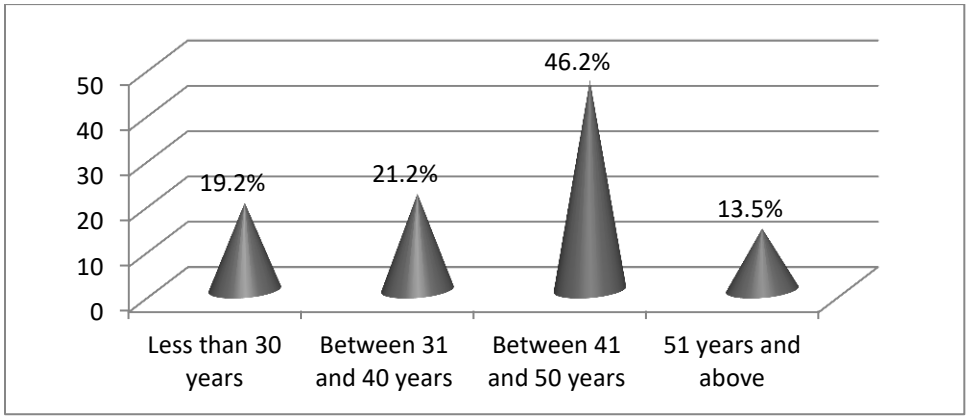

Figure 5 Respondents Age

Descriptive Findings and Analysis

Suppliers Financial Status

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding supplier's financial status. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 4.2. The results indicated that most of the respondents strongly agreed that majority of the company's suppliers have little debts issues (Mean = 4.67), the company normally engages suppliers with high assets turnover (Mean = 4.63) and also indicated that their company normally monitors the financial health of its suppliers (Mean = 4.71). Furthermore, the findings showed that the respondents strongly agreed that the company evaluates suppliers capital turnover before engaging them (Mean = 4.77) and that the company evaluates suppliers cash flow management practices before engaging them (Mean = 4.63). On average, the results showed that majority of the respondents strongly agreed with statements on suppliers financial status (Mean = 4.68). The findings are consistent with the findings of a study by Ngesa (2002) which established that Poor supplier appraisal has led to the purchases of goods that are normally inflamed in prices.

Table 1 Suppliers Financial Status

Statements	Mean	Std Dev
Majority of the company's suppliers have little debts issues	4.67	0.76
The company normally engages suppliers with high assets turnover	4.63	0.69
The company normally monitors the financial health of its suppliers	4.71	0.67
The company evaluates suppliers capital turnover before engaging them	4.77	0.67
The company evaluates suppliers cash flow management practices before engaging them	4.63	0.84
Average	**4.68**	**0.73**

Suppliers capacity

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding supplier's capacity. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 2. The results indicated that most of the respondents agreed on the maximum productive capacity in a normal working period (Mean = 3.85), there are plans to expand the existing capacity to meet future increased demand (Mean = 4.21) and the percentage of capacity to be utilized if the potential supplier was awarded the business is enough (Mean = 3.98). Furthermore, the findings showed that the respondents agreed that company has effective systems used for capacity planning (Mean = 4.42). The respondents also strongly agreed that the supplier has plans to overcome shortage of machinery (Mean = 4.44).

Additionally, the respondents also strongly indicated that the supplier has a full range of machinery to make the required product (4.60). They also strongly agreed that the suppliers machines are modern and well maintained (4.54). Lastly, the respondents agreed that their supplier's plant layout is satisfactory (4.21). On average, the results showed that majority of the respondents agreed with statements on suppliers capacity (Mean = 4.28). The findings are consistent with Lysons et al., (2008) who indicated that a buyer should assess a supplier capacity for instance the production facilities in terms of the machinery with attention paid to the following points: the availability of full range of machinery required to produce a required product, mechanisms to overcome shortage of machinery, evidence of good housekeeping, adoption of approaches such as computer aided designs, computer aided manufacture, satisfaction on safety provisions and modernity and well maintenance of machines.

Table 2 Suppliers Capacity

Statements	Mean	Std Dev
Maximum productive capacity in a normal working period	3.85	0.72
There are plans to expand the existing capacity to meet future increased demand	4.21	0.50
The percentage of capacity to be utilized if the potential supplier was awarded the business is enough	3.98	0.75
The company has effective systems used for capacity planning	4.42	0.54
The supplier has plans to overcome shortage of machinery	4.44	0.57
The supplier has a full range of machinery to make the required product	4.60	0.50
The suppliers machines are modern and well maintained	4.54	0.54
The suppliers plant layout is satisfactory	4.21	0.70
Average	**4.28**	**0.60**

Suppliers quality of goods

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding supplier's quality of goods. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 3. The results indicated that most of the respondents strongly agreed that company reviews supplier's quality assurance system in selection process (Mean = 4.90), the company reviews supplier's quality control system in selection process (Mean = 4.90) and also strongly indicated that their company reviews supplier's membership to national quality bodies in selection process (Mean = 4.73).

Furthermore, the findings showed that the respondents agreed that the company reviews supplier's membership to international quality bodies in selection process (Mean = 4.31) and that the company makes enquiries from other companies about the suppliers quality of goods during the selection process (Mean = 4.67). On average, the results showed that majority of the respondents strongly agreed with statements on suppliers quality of goods (Mean = 4.70). The findings are consistent with CIPS (2012) who argued that a buyer needs to assess and ensure that a supplier has robust systems and procedures in place for monitoring and managing its quality.

Table 3 Suppliers quality of goods

Statements	Mean	Std Dev
The company reviews supplier's quality assurance system in selection process	4.90	0.36
The company reviews supplier's quality control system in selection process	4.90	0.36
The company reviews supplier's membership to national quality bodies in selection process	4.73	0.56
The company reviews supplier's membership to international quality bodies in selection process	4.31	0.76
The company makes enquiries from other companies about the suppliers quality of goods during the selection process	4.67	0.47
Average	**4.70**	**0.50**

Suppliers Technical Capability

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding supplier's technical capability. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 4. The results indicated that most of the respondents agreed that company conducts an appraisal of the number of persons employed in production and administration (Mean = 3.52), the company conducts an appraisal of whether there is an effective use of the Human Resource (Mean = 3.63) and also indicated that their company conducts a supplier appraisal of qualifications and experience of managerial staff training schemes for supervisory and executive staff (Mean = 3.67). Furthermore, the findings showed that the respondents agreed that the company conducts an appraisal of whether there is encouragement of team work and empowerment (Mean = 3.92) and that the company conducts an appraisal of whether there is worker representation and recognized trade unions (Mean = 3.46).

Further, the respondents agreed that company conducts an appraisal on the days lost through industrial disputes in each of the last five years (Mean = 3.31). Also the respondents agreed that company conducts an appraisal on turnover in respect of managerial and operative staff (mean = 3.87). Lastly, the respondents agreed that their company conducts an appraisal on worker attitudes to the organization and concern for meeting customer requirement (mean = 4.21). On average, the results showed that majority of the respondents agreed with statements on supplier's technical capability (Mean = 3.70). The findings are consistent with Ongwae (2011) who argued that regarding technical capability, supplier appraisal information should be obtained regarding the number of persons employed in manufacturing and administration, use of human resources, qualifications and experience of managerial staff training schemes for supervisory and executive staff, encouragement of teamwork and empowerment, worker representation and recognized trade unions, days lost through industrial

disputes in each of the last five years, turnover in respect of managerial and operative staff and worker attitudes to the organisation and concern for meeting customer requirement.

Table 4 Suppliers Technical Capability

Statements	Mean	Std Dev
The company conducts an appraisal of the number of persons employed in production and administration	3.52	0.80
The company conducts an appraisal of whether there is an effective use of the Human Resource	3.63	0.69
The company conducts a supplier appraisal of qualifications and experience of managerial staff training schemes for supervisory and executive staff	3.67	0.73
The company conducts an appraisal of whether there is encouragement of team work and empowerment	3.92	0.74
The company conducts an appraisal of whether there is worker representation and recognized trade unions	3.46	0.78
The company conducts an appraisal on the days lost through industrial disputes in each of the last five years	3.31	0.83
The company conducts an appraisal on turnover in respect of managerial and operative staff	3.87	0.95
T he company conducts an appraisal on worker attitudes to the organization and concern for meeting customer requirement	4.21	1.05
Average	**3.70**	**0.82**

Procurement Performance

The study asked the respondents to indicate the approximate percentage changes in the indicators of procurement performance over the last 3 years in quality (number of defects and returns inwards), lead time and the costs involved in logistics. The results of the study on quality are as in Table 5. The summary of the findings revealed that majority 96.2% of the respondents indicated that number of defects and returns inwards decreased by over 50%, 1.9% indicated that it decreased by less than 50% while 1.9% indicated that it increased by over 50% in 2016. Majority of the respondents also showed that 80.8% indicated that it decreased by over 50% in 2015, 17.3% indicated that it decreased by less than 50% while only 1.9% indicated that it increased by less than 50%. Lastly, the findings also revealed that majority 67.7% of the respondents indicated that it decreased by over 50% in 2014, 40.4% indicated that it decreased by less than 50% while only 1.9% indicated that it increased by less than 50%. The results of the study imply that over the last 3 years there was a general decrease of over 50% in number of defects and returns inwards.

Table 5 Quality

Year Frequency	increased by over 50%	increased by less than 50%	Decreased by less than 50%	Decreased by over 50%
2016	1.90%	0.00%	1.90%	96.20%
2015	0.00%	1.90%	17.30%	80.80%
2014	0.00%	1.90%	40.40%	57.70%

The results of the study on lead time are as in table 6. The summary of the findings revealed that majority 98.1% of the respondents indicated that the time taken to deliver orders to customers decreased by over 50% in 2016 while only 1.9% indicated that it decreased by less than 50%. Moreover, 90.4% indicated that it decreased by over 50% while 9.6% indicated that it decreased by 50%in 2015. Finally, the findings also revealed that 55.8% of the respondents indicated it decreased by over 50% while 44.2% indicated that it decreased by less than 50% in 2014. The results of the study reveal that the time taken to deliver orders to customers decreased by over 50%.

Table 6 Lead time

Year Frequency	Decreased by less than 50%	Decreased by over 50%
2016	1.90%	98.10%
2015	9.60%	90.40%
2014	44.20%	55.80%

The results of the study on costs involved in logistics are as in Table 7. The summary of the findings revealed that majority 96.2% of the respondents indicated that the costs involved in logistics decreased by over 50% in 2016 while 1.9% indicated that it decreased by less than 50% and increased by less than 50% respectively. The findings also revealed that 84.6% of the respondents indicated that it decreased by over 50%, 13.5% decreased by less than 50% while 1.9% indicated that it increased by less than 50% in 2015. Lastly, the findings revealed that 65.4% indicated that it decreased by 50%, 25% indicated it decreased by 50% while only 9.6% indicated it increased by 50%. The study results imply that Costs involved in logistics generally decreased by over 50%.

Table 7 Costs involved in logistics

Year Frequency	increased by less than 50%	Decreased by less than 50%	Decreased by over 50%
2016	1.90%	1.90%	96.20%
2015	1.90%	13.50%	84.60%
2014	9.60%	25.00%	65.40%

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding procurement performance. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 8. The results indicated that most of the respondents strongly agreed that company has experienced reduced number of defects in the recent years (Mean = 4.96), the company has experienced reduced number of return inwards (Mean = 4.98) and also indicated that their company has increased compatibility with lean supply (Mean = 4.48). Furthermore, the findings showed that the respondents strongly agreed that the company has experienced reduced overall cost of handling inventory (Mean = 4.85) and that the company has experienced reduced stock out level (Mean = 4.83). Additionally, the respondents also strongly agreed that company has improved on time delivery (mean = 4.87).

Lastly, the respondents strongly agreed that company has experienced reduced lead time (mean = 4.85). On average, the results showed that majority of the respondents strongly agreed with statements on procurement performance (Mean = 4.83).

Table 8 Procurement Performance

Statements	Mean	Std Dev
The company has experienced reduced number of defects in the recent years	4.96	0.19
The company has experienced reduced number of return inwards	4.98	0.14
The company has increased compatibility with lean supply	4.48	0.70
The company has experienced reduced overall cost of handling inventory	4.85	0.36
The company has experienced reduced stock out level	4.83	0.38
The company has improved on time delivery	4.87	0.40
The company has experienced reduced lead time	4.85	0.41
Average	**4.83**	**0.37**

Correlation Analysis

The findings revealed that appraisal of supplier's financial status positively influence procurement performance of petroleum companies in Kenya (r = 0.623, P-value = 0.000, < 0.005). An increase in appraisal of financial status of the supplier's with regard to debts owed, cash flow management and assets owned by them is positively associated with procurement performance. The findings agree with Chemjor (2015) who conducted a study to establish the supplier evaluation criteria and procurement performance in parastatals in Kenya and established that appraisal of supplier's financial status positively influence service delivery. The findings further revealed that appraisal of supplier's capacity positively influence procurement performance of petroleum companies in Kenya (r = 0.296, P-value = 0.033, < 0.005) An increase in appraisal of the capacity of the suppliers with regard to Production capacity, Storage capacity and Distribution capacity is positively associated with procurement performance. The results are consistent with Kamenya (2014) who conducted a study on the relationship between supplier evaluation and performance in large food and beverage manufacturing firms in Nairobi and revealed that organizations need to consider the employee capabilities of the supplier which is significantly influencing performance of the procurement process.

The appraisal of supplier's quality of goods positively influence procurement performance of petroleum companies in Kenya (r = 0.512, P-value = 0.000, < 0.005) An increase in appraisal of the quality of goods of the suppliers with regard to Supplier's quality control system, accreditation with quality standards bodies and supplier's quality assurance systems is positively associated with procurement performance. The findings are consistent with Aseka (2010) who did a study on supplier selection criteria and performance of manufacturing firms listed in the Nairobi Stock Exchange and established found a positive relation between effective supplier selection and organization performance. It illustrated that, firms considered quantitative factors such as the suppliers' commitment to quality and ability to meet delivery due dates in supplier selection than qualitative factors such as suppliers' willingness to share confidential information. The correlation results also showed that supplier's technical capability is positively associated with procurement performance (r = 0.362, P-value = 0.008, < 0.005). This implies that appraisal of the supplier's technical capability of characteristics such as professional experience, educational background and technical knowledge of operation is positively associated with procurement performance. The findings of the study are consistent with Mwikali and Kavale (2012) who sought to identify the factors affecting supplier selection and illustrated that; cost, technical capability, quality assessment, organizational profile, service levels, supplier relation profile and risk factors are the major factors affecting selection of suppliers.

Table 9 Correlation analysis

Correlations		Suppliers financial status	Suppliers capacity	Suppliers Quality goods	Suppliers technical capability	Procurement performance
Suppliers financial status	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	52				
Suppliers capacity	Pearson Correlation	.446**	1			
	Sig. (2-tailed)	0.001				
	N	52	52			
Suppliers Quality goods	Pearson Correlation	.453**	.410**	1		
	Sig. (2-tailed)	0.001	0.003			
	N	52	52	52		
Suppliers technical capability	Pearson Correlation	.487**	.829**	.506**	1	
	Sig. (2-tailed)	0	0	0		
	N	52	52	52	52	
Procurement performance	Pearson Correlation	.623**	.296*	.512**	.362**	1
	Sig. (2-tailed)	0.000	0.033	0.000	0.008	
	N	52	52	52	52	52

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

* Correlation is significant at the 0.05 level (2-tailed).

Regression Analysis

The significance of the beta coefficients was tested at 5% level of significance. The results for model summary, fitness and coefficients are presented.

Table 9 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.676	0.457	0.411	0.22982828

The regression results show that appraisal of the supplier financial status, supplier capacity, supplier quality of goods and services and supplier technical capacity jointly have a positive correlation with procurement performance (R = 0.676). This implies that an improvement in the four supplier appraisal criteria's has a positive influence on procurement. The findings also presented the coefficient of determination (R-square). Generally, a higher value of R-Square means that you can better predict one term from another. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (procurement performance) that is explained by all the four supplier appraisal criteria's that is supplier financial status, supplier capacity, supplier quality of goods and services and supplier technical capacity.

From the findings 45.7% of the procurement performance is attributed to combination of the four supplier appraisal criteria's that is supplier financial status, supplier capacity, supplier quality of goods and services and supplier technical capacity. This implies that the remaining 54.3% of the variation in procurement performance is attributed to other factors not investigated in this survey; therefore, further research should be conducted to investigate them. The results agree with Murigi (2014) who argued 57.1% of the performance of the procurement process is directly determined by the supplier evaluation and appraisal criteria. The adjusted R Square in the table is 0.411 indicating that in case where the study population could have been changed, the study results could have varied by 58.9% from the current results. Therefore, the study results are 41.1% valid as shown by the adjusted R square value. The study also conducted an Analysis of Variance to establish the model fitness. The results are presented in Table 10.

Table 10 Analysis of Variance (Model Significance)

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.09	4	0.523	9.894	.000
Residual	2.483	47	0.053		
Total	4.573	51			

The ANOVA Table shows that the test for the joint significant which is given by the F statistic is 9.894 and as observed in table 4.9, it is statistically significant (0.000 which is Less than .05) at 5 percent level of significance. This implies that the four supplier appraisal criteria's that is supplier financial status, supplier capacity, supplier quality of goods and services and supplier technical capacity significantly predict procurement performance of oil petroleum companies. The ANOVA statistics at 5% level of significance shows that the value of F calculated (F computed) is 9.894 and the value of F critical (F tabulated) at 4 degrees of freedom and 47 degrees of freedom at 5% level of significance is 2.5695.

Since F calculated (F computed) is greater than the F critical (F tabulated) (15.508>2.5695), this shows that the overall model was significant at 5% significance level. This therefore reveals that the regression model developed is statistically significant and the variation in the results is insignificant that cannot result to a much difference in case of a change in the study units (population) and therefore the model can be relied upon to explain the influence of supplier appraisal criteria on procurement performance of petroleum companies in Kenya. The findings are consistent with Chemjor (2015) who conducted a study to establish the supplier evaluation criteria and procurement performance in parastatals in Kenya and established that a significant model linking supplier evaluation criteria and procurement performance exists. The model coefficients were lastly established as indicated in Table 4.10.

Table 11 Regression coefficients

Predictor Variables	B	Std. Error	t	Sig.
(Constant)	2.81	0.461	6.099	0.000
Suppliers financial status	0.235	0.06	3.953	0.000
Suppliers capacity	0.045	0.122	0.368	0.714
Suppliers quality goods	0.228	0.098	2.317	0.025
Suppliers technical capability	0.010	0.096	0.103	0.918
Dependent Variable: Procurement performance				

Optimal Model

Procurement Performance = 2.81 + 0.235 (Suppliers Financial Status) + 0.228 (Supplier's quality of goods)

According to the regression equation established, taking all factors (supplier financial status, supplier capacity, supplier quality of goods and services and supplier technical capacity) constant at zero, the procurement performance will be 2.81. This implies that other factors influence procurement performance of petroleum companies positively before testing the influence of supplier appraisal. The findings revealed that appraisal of supplier's financial status positively and significantly influence procurement performance of petroleum companies in Kenya (Beta = 0.235, P-value = 0.000, < 0.005). This implies that an increase in appraisal of financial status of the supplier's with regard to debts owed, cash flow management and assets owned by them by 1% leads to a 0.235% improvement in the procurement performance of petroleum companies.

The findings are consistent with the findings of a study by Kamenya (2014) which revealed that there is a positive relationship between performance and supplier evaluation criteria. The findings further revealed that appraisal of supplier's capacity positively influence procurement performance of petroleum companies in Kenya (Beta = 0.045). The influence is however not significant (P-value = 0.714, > 0.005). This implies that an increase in appraisal of the capacity of the suppliers with regard to Production capacity, Storage capacity and Distribution capacity will lead to a positive but not significant influence on procurement performance of petroleum companies. The findings are consistent with the findings of a study by Aseka (2010) which found a positive relation between effective supplier selection and organization performance. The results also showed that appraisal of supplier's quality of goods positively and significantly influence procurement performance of petroleum companies in Kenya (Beta = 0.228, P-value = 0.025, < 0.005).

The results imply that an increase in appraisal of the quality of goods of the suppliers with regard to Supplier's quality control system, accreditation with quality standards bodies and supplier's quality assurance systems by 1% leads to a significant improvement in procurement performance by 0.228%. The findings are consistent with the findings of a study by Koome (2011) which found out that the more suppliers appraisal is carried out, the better service delivery would be offered. The results also showed that supplier's technical capability positively but not significantly influence procurement performance (Beta = 0.010, P-value = 0.9188, > 0.005). This implies that appraisal of the supplier's technical capability of characteristics such as professional experience; educational background and technical knowledge of operation positively but insignificantly influence procurement performance of petroleum companies.

Conclusions

The study concluded that appraisal of supplier's financial status positively and significantly influence procurement performance of petroleum companies in Kenya. Appraisal of supplier's capacity positively but insignificantly influence procurement performance of petroleum companies in Kenya. Appraisal of supplier's quality of goods positively and significantly influence procurement performance of petroleum companies in Kenya. Supplier's technical capability positively but not significantly influence procurement performance.

Recommendations of the Study

The study recommends that the petroleum companies should increase the frequency of conducting appraisal of financial status of the supplier's with regard to debts owed, cash flow management and assets owned by them leads since it leads to a significant improvement in the procurement performance of petroleum companies. The study also recommends that petroleum companies should increase the frequency of conducting appraisal of the capacity of the suppliers with regard to Production capacity, Storage capacity and Distribution capacity since it leads to a positive influence on procurement performance of petroleum companies.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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