



**PROCUREMENT PRACTICES AND CUSTOMER SERVICE DELIVERY IN PETROLEUM INDUSTRY IN KENYA**

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### ABSTRACT

*This study intended to determine the effects of Procurement practices on customer service delivery in Petroleum Industry in Kenya. Specifically the study sought to explore how e-procurement affects customer service delivery; determine the effects of supplier evaluation on customer service delivery; examine the effect of Supplier Relationship Management on customer service delivery in Petroleum Industry in Kenya and establish inventory management effects on customer service delivery. The study employed descriptive design. The study targeted the fifty firms in the petroleum industry. The unit of analysis of this study was fifty (50) key informants in each of the firms in the petroleum industry in Kenya. The study used census sampling technique where all the subjects were given a chance to give the information on how they think on the Procurement practices and customer service delivery in petroleum industry in Kenya. Therefore a sample of 100% of total population was taken in the study which was sufficient to allow generalization. The sample size comprised of 50 key informants within the petroleum firms in Kenya. The questionnaires were used to collect data. Findings of the study were analyzed with the help of the Statistical Package for Social Sciences (SPSS) and data presented in percentages, frequencies, graphs, tables and pie charts. The data was analyzed using descriptive statistics such as frequency, mean and percentages. Inferential statistics such as correlation and regression was also used. The findings were presented in form of tables and figures. The findings of the study revealed that the four independent variables of electronic procurement, supplier evaluation, supplier relationship management and inventory management positively and significantly influenced the customer service delivery among petroleum firms in Kenya. The study concluded that an improvement in electronic practices of procurement elements such as e tendering, supplier evaluation indicators such as technical capability, supplier relationship aspects such as timely information and inventory management indicators such as demand forecasting enhance the customer service delivery.*

**Key Words:** Procurement practices, E-Procurement practices, supplier evaluation, Supplier Relationship Management, contribution of inventory management, customer service delivery

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## INTRODUCTION

Procurement management is increasingly and widely recognized as a function within the organization that leads to increased productivity as well as ensuring customer service delivery (Anderson 2017). Day to day operations of procurement functions are usually undertaken as per what the procurement policy stipulates. According to Basheka, (2017) procurement policy refers to standard sequence of actions and guidelines which are effectively managed and adhered to, in order realize the objectives of the procurement function. Schooner & Whiteman (2015) use “policies” when referring to principles such as transparency, probity, competition, and value for money. The systems perspective would classify these principles as desired results (outputs or impacts) to be achieved through procurement policies. Such treatment of procurement deflects attention from its policy aspect that determines the extent to which it contributes to desired outcomes such as customer satisfaction.

The oil and gas industry have always made a great impact to the world and UK's national and local economies. UKOOA (2003) reports that the UK economy alone has benefited from 190 billion Euros (2002) in taxes since 1960's when extraction began. Smaller oilfields are also still being developed through the use of innovative technological plant and equipment, and more economic management approaches such as joint venture exploration with shared risks. However, the developments have been insufficient away from traditional approaches in procurement, with majority of the procurement systems being mere carbon copies from other industries. This is probably because there are few stakeholders that is project initiators (clients/owners) and implementers (contractors) in the industry.

In the Nigerian AGIP Energy and Natural Resource, procurement process plays a great role interms of supply chain, contracts, purchasing, logistics, storage, supplying, and etc. (Kuszewski, 2011) .Consequently,

procurement involves various activities ranging from; sourcing, pricing, buying and supplying concerned products and services at the right time and at the right place to the right customer. According to Humphries (2010), the procurement process at the company aims at reducing labor costs, focused material delivery, low-risk oil production and exploration process. The procurement process has broadened in the Nigerian AGIP Energy and Natural resource in order to deal with opportunities and complexities emerging in the in oil and gas(Ariweriokuma,2008).

The Petroleum industry in Kenya was well established by the time of independence in 1963 (Tuitoek, 2017). Prior to 1994, the industry was a regulated sector, where the Government was highly involved in both price and importation controls. Kimuyuet.al (2012) notes that the Government monopolized virtually all the aspects of supply, storage and transportation, while marketing was done by the private sector through multinational oil companies. The petroleum industry is one among the four (4) major drives of the country's economy in the energy subsector as it provides the link required in manufacturing and service sector to the market for goods and services. Over 95% of the petroleum products are handled by Kenya Pipeline Company (KPC) as white oil imports while Kenya Petroleum Refineries Limited (KPRL) handles all crude oil through Kipevu Oil Terminal (KOT). Liquefied Petroleum Gas (LPG) is handled by the marketers at Shimanzi Oil Terminal (SOT). Petroleum fuels constitute the main source of commercial energy in Kenya. (Ministry of Energy).

Currently the sector has fifty (50) Oil Marketing Companies (OMC's) involved in importation and marketing of the four(4) main petroleum products, that is, Motor Spirit premium (MSP), Motor Spirit Regular (MSR), Automotive Diesel Oil (AGO) and Dual Purpose Kerosene (DPK). The industry also handles Liquefied petroleum gas (LPG), various lubricants, tar and industrial fuels. Over 65% of both the local and

export market is controlled by about 5 marketers as follows; Total Kenya 22.55%, Shell 17.81%, Oilibya 10.56%, Kobil 10.55%, Nock 7.10%, the other firms had less than 4% individual market share.(KPC product delivery data report 2010).

### **Statement of the Problem**

Petroleum firms in Kenya experience serious setbacks in the execution of their functions due to poor or defective procurement practices and strategies. Procurement covers 15% of the entire organizational budget, however out of that, 5% goes to waste due to returns, obsolete, pilferage and rework caused by the defective items (KNBS, 2018). According to (PPOA 2009), procurement activities grew from 5.8 percent in 2001/2002 to 23.6 percent in 2007/2008 (PPOA, 2009). There is a growing recognition that, despite significant increases in resources, service delivery is still falling in Petroleum Industry in developing countries.

Recently the field of procurement has attracted many researchers. Gituru (2018) conducted a study on influence of competitive procurement practices on service delivery in public hospitals. Adyemi (2010) conducted a study on factors affecting the adoption of effective procurement practices in public organizations. (Krause 2000) conducted a study on International Journal of Economics, Commerce and Management, United Kingdom Licensed under Creative Common Page 389 influence of supplier development strategies in service delivery, There is however scanty empirical research examining the application of procurement practices in enhancing service delivery in Petroleum Industry in Kenya. From the above studies it is evident that there has not been a study that links the application of procurement practices in enhancing service delivery in the petroleum industry in Kenya. This leaves a knowledge gap that has necessitated the study. This study, therefore, was focused on identifying the effects of procurement practices on customer service delivery in the Petroleum Industry in Kenya.

### **Study Objectives**

The main objective was to determine effect of Procurement practices on customer service delivery in Petroleum Industry in Kenya. The specific objectives were:-

- To determine the effects of E-Procurement practices on customer service delivery in Petroleum Industry in Kenya.
- To explore the effects of supplier evaluation on customer service delivery in Petroleum Industry in Kenya.
- To examine the effect of Supplier Relationship Management on customer service delivery in Petroleum Industry in Kenya.
- To determine the contribution of inventory management on customer service delivery in Petroleum Industry in Kenya.

## **LITERATURE REVIEW**

### **Theoretical Review**

#### **Theory of Strategic Balancing**

Strategic balancing is based on the principle that the strategy of a company is partly equivalent to the strategy of an individual. Indeed, the performance of companies is influenced by the actors' behavior, including the system of leaders' values. Further to an empirical study on technological alliances, Aliouat and Boualem, (2017) deduced the principle of the strategic balancing according to which a technological alliance generates paradoxes and lives by its paradoxes.

An alliance wavers between multiple antagonistic poles that represent cooperation and competition. This gives room to various configurations of alliances, which disappear only if the alliance swings towards a majority of poles of confrontation (Aliouat and Boualem, 2017). The strategic balancing gathers three models, namely the relational, symbiotic and deployment models. Competition proves to be part of the relational model and the model of deployment. It can be subject to alternation between the two antagonistic strategies, the one being predominantly

cooperative as described by the relational model and the other being predominantly competing as characterized by the model of deployment. The company can then take turns at adopting the two strategies in order to keep their alliance balanced.

### **Resource Based View**

Introduction of the theory of RBV is attributed to Birger Wernerfelt (1984). The theory describes organization in terms of its capabilities or resources add to a more comprehensive understanding of the firm's core functions and sources of potential. The basis of RBV theory is primarily focused on internal organizational factors as Barney (1991) explains firms cannot purchase sustained competitive advantages on an open market and must find these advantages within its owned resource pool. The main elements of the resource-based theory may be summarized as follows: ((Grant,2001) enterprises are collections of resources and capabilities; the effectiveness of an enterprise depends on the balance between resources and capabilities, on one side, and customer demands, on the other; the growth of an enterprise is limited by its resources and capabilities; competitive advantage is based on capabilities which are irreproducible or reproducible only with substantial difficulty.

According to Lee (2015), organization that understands the balance between its core resources and the supporting resources required from external sources has an advantage over an organization fixated on maximizing self-sufficiency. A key aspect of the RBV which relates to the procurement of resources is the relative value of the resource to the organization. Firms must be mindful of the risk associated with procuring resources which deviate from organizational goals which affects the service delivery (Roy & Khokhle, 2011). Acquiring resources misaligned with organizational goals wastes financial resources that can be used for procuring valuable capabilities, dilutes the effectiveness of established core resources, and potentially shifts an organizations

focus from implementing resources to the sole process of resource collection. According to Ray *et al*, (2004) procurement policy should always support procurement of resources that have potential of enhancing service delivery to customers. The theory supports the objective on effect of supplier evaluation on customer service delivery in Petroleum Industry in Kenya.

### **Systems Theory**

This theory was developed by Yourdon in 1989. Yourdon (1989) used the theory in the field of information technology to show how adaptability of any theory changes as per the enhancement of the system structure. General System Theory focuses on the system's structure instead of the system's function. It suggests that complex systems have common basic organizing principles irrespective of their purposes which are in exchange and are bounded (Zeng, & Pathak, 2013).

Thai (2010) adapts the systems model to capture "the whole scope of public procurement". Thai is particularly concerned to portray the core elements of any procurement system and the relationships between and among them. Thai places the policy-making function with management executives at the top level of a procurement system. This has the effect of discounting the importance of policy roles that may be played in other elements of his model, for example, his "regulations" element or his "operations" element.

### **Supply-Chain Operations Reference Model (SCOR)**

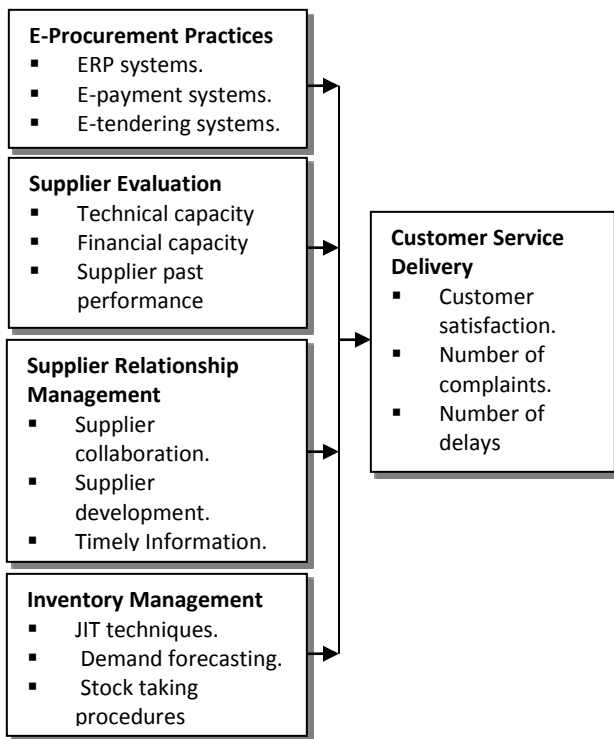
The SCOR model, developed by the Supply-Chain Council, is a process reference model that serves as a diagnostic tool for supply chain management (Huan, 2004). According to supply chain council (2004) Supply-Chain Operations Reference (SCOR) provides a standard description of supply chain processes, performance metrics, best practice and enabling technologies. It offers a comprehensive methodology to improve supply chain operations. It is widely



acknowledged as the quasi–industry standard for supply chain management (Bauhof, 2004)

According to Kasi and Vijay (2005) SCOR model has proven to benefit companies that use it to identify supply chain problems. The model enables full leverage of capital investment, creation of a supply chain road map, alignment of business functions, and an average of two to six times return on investment. According to Rahangia *et al* (2012) SCOR frame work help companies to be able to improve its services to Production Departments and in particular to the customer as well as to help companies to understand, evaluate supply chain processes that occur in the Company.

**Conceptual Framework**



**Independent Variable**                      **Dependent Variable**

**Figure 1: Conceptual Framework**

**Source: Author (2019)**

**Empirical literature**

Studies by Onyika (2013) and Eyaa (2015) revealed that the implementation of procurement policies and regulation is being hampered by various challenges

which include poor training, lack of awareness and ethics within the organization thereby affecting service delivery. The studies revealed that majority of the tendering committee members have not attended any procurement training workshops/seminars. The training/capacity building programmers attended by committee members do not meet the organization needs on the procurement procedures. The same study indicated that 78% of the respondents considered competitive bidding as the only procurement method that enables high quality service delivery to both internal customers and external customers.

Obare (2013) study on efficacy of procurement laws established that there are a number of organizational factors that influence the procurement policies and its effects on service delivery. These factors include structure and role clarity, preparation of quality and reliable procurement plans, clear channels of communication, the type of goods and services being procured, the procurement employees’ qualifications and numbers. The research concluded that the level of compliance which is 60% has a direct effect on the level of service offered.

A study by Ingariet *al* (2015) examined two aspects of performance, that is, profitability and customer satisfaction. The study established that 50% of respondent agreed that building buyer-supplier relationships had effect on profits while 100% strongly agreed the same had effect on customer satisfaction. Therefore the conclusion was that in order to enhance service delivery to customers the organization should pay attention in building strong buyer supplier relationship. The study also established that incorporating technology in the procurement process and strong support from the top management for procurement process has a great impact of increasing profits and level of customer satisfaction.

A study by Githui (2016) showed that integrity is a main issue for procurement policies and shows up in the discussions about responsible agents in the procurement management, who are able to make rational decisions to depict their ethical and moral nature in the conduct. It is therefore relative that to elaborate a list of virtues be set and applied in the management of purchasing and supplies in Kenya. There is also a need to integrate ethical purchasing into existing procurement management systems incentives and performance reviews can be structured to reward rather than undermine ethical sourcing. The study concluded that the procurement policy should be designed in such a way that they safeguard the basic ethical practices in procurement so as to enhance service delivery.

#### METHODOLOGY

The descriptive research design was employed in the study. The population of this study was (50) fifty firms in the petroleum industry in Kenya. The study used census sampling technique where all the subjects were given chance to give the information on how they think on the Procurement practices and customer service delivery in petroleum industry in Kenya.

The data was summarized, coded and tabulated. Descriptive statistics such as means, standard deviation and frequency distribution was to analyze the data the statistically. Data presentation was done by the use of pie charts, bar charts and graphs, percentages and frequency tables.

Correlation analysis to establish the relationship between the independent and dependent variables was employed. Regression models were to analyze

relationships and predictions among variables under the study.

#### FINDINGS

##### E-procurement practices

The respondents were asked to rate statements on E-procurement practices on a scale of 1 to 5, where 1 was Very low extent, 2 was Low extent, 3 was Moderate extent, 4 was High extent and 5 was Very high extent. The findings revealed that majority of respondents agreed that e tendering applied in most petroleum industries was competitive in nature and enhances service delivery, E-payments enabled customer service delivery which in return results to customer satisfaction and E-payments enables customer service delivery which in return results to customer satisfaction to a very high extend as indicated by mean value of 4.63, 5.00 and 3.52 respectively.

Furthermore, the respondents indicated that the institution always ensured there was easy accessibility of procurement information for both internal customers and the procurement process is very flexible to facilitate any unforeseen situation such as excess demand of petroleum products to moderate extent as shown by mean value of 3.38 and 3.19 respectively. On average, it can be concluded that E-procurement practices are practiced to a moderate extent among petroleum firms in Kenya as shown by an average mean response of 3.94. The findings of this study were consistent with Homburg, Krohmer, Cannon and Kiedaisch (2002) who argued that despite its importance, E-procurement practices is not widely practiced in the major sectors in the economy.

**Table 1: E-Procurement Practices**

Statements	Mean	Standard Deviation
The e-tendering procurement applied is competitive in nature and enhances the service delivery	4.63	0.79
E-payments enables customer service delivery which in return results to customer satisfaction	5.00	0.00

The institution always ensures there is easy accessibility of procurement information for both internal customers and external customers	3.38	1.13
The procurement process is very flexible to facilitate any unforeseen situation such as excess demand of petroleum products in your institution	3.19	1.23
The e-tendering procurement applied is competitive in nature and enhances the service delivery	3.52	0.98
<b>Average</b>	<b>3.94</b>	<b>0.83</b>

### Supplier Evaluation

The second objective of the study was to establish the influence of supplier evaluation on customer service delivery among Petroleum firms in Kenya. It was established that Supplier evaluation team included personnel across the entire organization to facilitate clear understanding of user or customer needs. Supplier selection is not always based on lower cost bids but on the value for money, and Technical and financial capabilities are considered while evaluating supplier bids to a moderate extent as shown by average responses of 3.44, 3.30 and 3.42 respectively. Furthermore, the findings revealed that Close buyer -

supplier relationship is exercised to ensure customer satisfaction and Technical capability influences customer service delivery to a high extent as shown by average responses of 4.03 and 3.92 respectively. On average, it can be concluded that the supplier evaluation among petroleum industries in Kenya practice is at a moderate extent as shown by overall average mean response of 3.62. The findings of this study were consistent with Tanguy, Yugi, Rambo and Rono (2015) who argued that at the moment, the petroleum sector is investing in supplier evaluation the procurement process is adequate.

**Table 2: Supplier Evaluation**

Statements	Mean	Standard Deviation
Supplier evaluation team includes personnel across the entire organization to facilitate clear understanding of user or customer needs.	3.44	1.26
Supplier selection is not always based on lower cost bids but on the value for money.	4.03	0.78
Technical and financial capabilities are considered while evaluating supplier bids.	3.30	1.41
Close buyer - supplier relationship is exercised to ensure customer satisfaction	3.42	1.29
Technical capability influences customer service delivery	3.92	1.03
<b>Average</b>	<b>3.62</b>	<b>1.15</b>

### Suppliers relationship management

The third objective of the study was to find out the influence of supplier relationship management on customer service delivery in the Petroleum industry. The findings revealed that high extent organizational development, information sharing, inter organizational systems, Supplier relationship competencies and channel relationships influence

customer service level among the Petroleum firms in Kenya. This was supported by average response rate of 3.64, 3.74, 3.68 and 3.94 respectively. It was however revealed that the Petroleum firms in Kenya evaluate the suppliers' controlling quality capabilities to a moderate extent as shown by an average response rate of 3.47.

Overall, it was concluded that adoption of suppliers' relationship management among Petroleum firms in



Kenya has been done to a high extent as shown by an overall average mean response of 3.69. The findings are consistent with the findings of a study by Modi and Mabert, (2007) who argued that supplier

relationship management is being construed by both the private and public sector as the strategy for improving the procurement performance.

**Table 3: Suppliers relationship management**

Statements	Mean	Standard Deviation
Organizational development influence customer service level	3.64	1.16
Information sharing influence customer service level	3.74	0.96
Inter organizational systems influence customer service level	3.47	1.26
Supplier relationship competencies influence customer service level	3.68	1.12
Channel relationships influence customer service level	3.94	0.82
<b>Average</b>	<b>3.69</b>	<b>1.06</b>

### Inventory Management

The final objective of the study was to find out the influence of inventory management on the customer service delivery. It was established that the organization had put in place a replenishment system that ensure stock were always replenished on time to reduce stock out to a high extent among petroleum firms in Kenya. There were well trained personnel to manage inventory in the organization and frequent stock take are undertaken to ensure there was smooth flow of stock within the organizations departments. As shown by average response of 3.80 and 4.40 respectively. It was also shown that the Inventory forecasting is very crucial in ensuring

smooth flow of operations and the organization have set up efficient control measures which reduce the stock out and storage costs to a moderate extent as shown by mean response of 2.63, 1.63 and 1.80 respectively.

Generally, there was indication that inventory management had been implemented among petroleum firms to a moderate extent as shown by the overall average mean response of 2.85. The findings were consistent with Wachiuri, Waiganjo and Oballah (2015) who argued that even though inventory management positively influences performance, it is not widely practiced in the petroleum sector as compared to the other sectors.

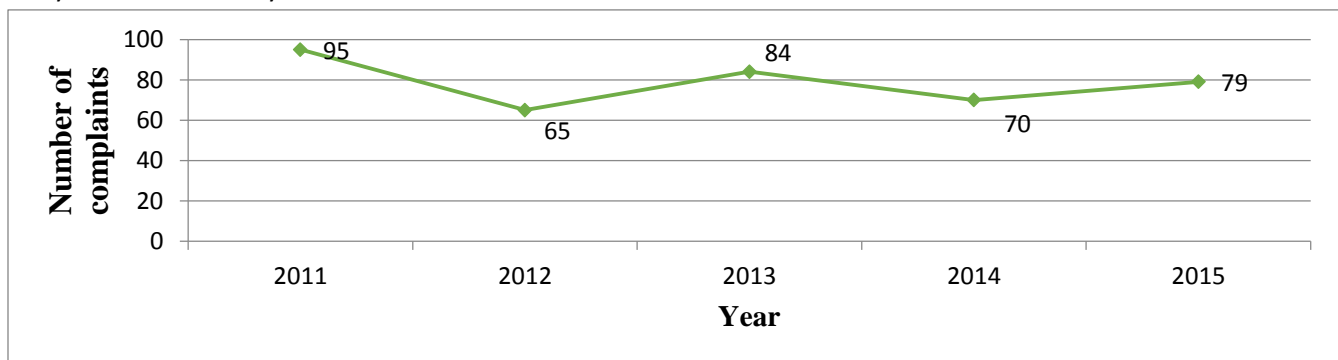
**Table 4: Inventory Management**

Statements	Mean	Standard Deviation
The organization has put in place a replenishment system that ensure stock are always replenished on time to reduce stock outs	3.80	1.08
There are well trained personnel to manage inventory in the organization	2.63	1.29
Frequent stock take are undertaken to ensure there is smooth flow of stock within the organizations departments.	4.40	0.92
Inventory forecasting is very crucial in ensuring smooth flow of operations.	1.63	1.59
The organization has set up efficient control measures which reduce the stock out and storage costs.	1.80	1.41
<b>Average</b>	<b>2.851.25</b>	

### Customer Service Delivery

The study sought to establish the changes in the customer's complaints among petroleum firms between the year 2011 and 2015. The findings revealed that there were unsteady trends in the number of complaints among petroleum firms in Kenya between the year 2011 and 2015. That can

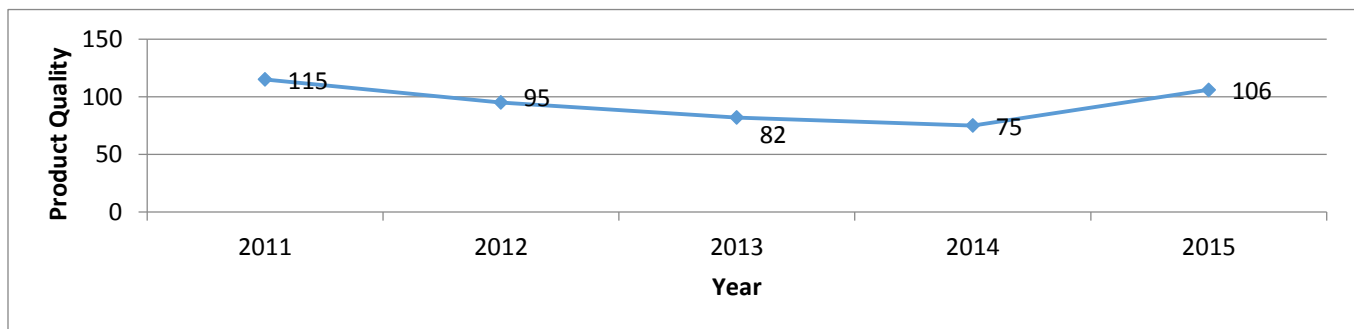
explain that a reduction in the negative compliments from the customers as a result of improved products and services. The findings are consistent with the findings of a study by Wanyama (2010) who revealed increasing concerns of customer complaints in the petroleum sector in Kenya.



**Figure 2: Number of complaints**

The study further sought to establish the changes in product quality as measured by the rejection rate among petroleum firms in Kenya between the year 2011 and 2015. The results in figure 3 revealed decreasing trends in the product rejection rate among petroleum firms in Kenya from the year 2011 to 2014, then followed by a sharp increase in the

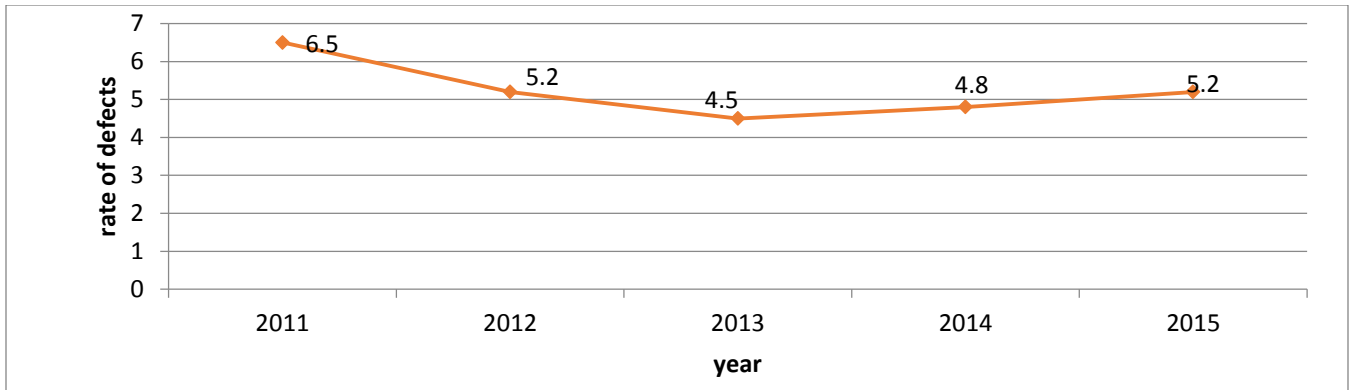
year 2015. In as much as there is an improvement in customer service delivery in terms of reduced rejections of substandard quality product, the value of 106 as at the year 2015 indicates that procurement still faces challenges in the petroleum sector as Chesang (2013) attest.



**Figure 3: Products Quality**

The study sought to establish the changes in the defects rate among petroleum sector firms in Kenya between the year 2011 and 2015. The results presented in Figure 4 revealed fluctuations in the defects rate among petroleum sector in Kenya. The defects rate decreases steadily from year 2011 to

year 2013 followed by an increase in year 2014 to 2015. These findings confirmed an argument by Njeru (2015) regarding inefficiency and ineptness of procurement practices in many petroleum industries in Kenya.



**Figure 4: Rate of defects**

### Inferential Analysis

**Table 5: Correlation Tests Results**

		E-procurement practices	Supplier Evaluation	Supplier relationship management	Inventory management	Customer service delivery
E-procurement practices	Pearson Correlation	1				
Supplier Evaluation	Pearson Correlation	-0.177	1			
Supplier relationship management	Pearson Correlation	-0.224	-.261*	1		
Inventory management	Pearson Correlation	.282*	0.052	.499*	1	
Customer service delivery	Pearson Correlation	.370*	.265*	.318*	.789*	1
	Sig. (2-tailed)	0.003	0.035	0.010	0.000	
	N	43	43	43	43	43

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

The study findings revealed a positive and significant relationship between E procurement practices and customer service delivery among petroleum firms in Kenya (R = 0.370, Sig <0.05). This therefore implied that an improvement in various indicators of E procurement practices such as enterprise resource planning systems and the required quality standard, E payment systems, E tendering systems results to a

significant improvement in customer service delivery among petroleum firms in Kenya. This finding was consistent with the study findings of Lasserre (2004) who highlighted that training of E procurement practices are of crucial importance on improving customer service delivery among petroleum firms in Kenya.

The correlation results also showed that supplier evaluation and customer service delivery among petroleum firms in Kenya are positively and significantly associated ( $R = 0.265$ ,  $Sig < 0.05$ ). This therefore implies that an improvement in various indicators of supplier evaluation such as the buyer to supplier information sharing, buyer to supplier performance feedback, investment in inter-organizational information technology, adoption and use of Enterprise Resource Programs and development of good communication channels resulted to a significant improvement in the customer service delivery among petroleum firms in Kenya. This finding is consistent with the argument by Eamonnet *al.* (2008) who revealed a positive relationship between better supplier evaluation practices between suppliers and the customer with customer service delivery among petroleum firms in Kenya.

Correlation results also indicated that supplier relationship management had a positive and significant association with customer service delivery among petroleum firms in Kenya, ( $R = 0.318$ ,  $Sig > 0.05$ ). This also implies that an improvement in various indicators of suppliers relationship management such as supplier recognition after evaluation, supplier certification after evaluation, evaluation of supplier capability of controlling quality, and evaluation of suppliers overall performance to ensure compliance to buyers policies results to a

significant improvement in customer service delivery among petroleum firms in Kenya. The findings agrees with Hald and Ellegaard (2011) who indicate a positive effect of supplier relationship management on customer service delivery among petroleum firms in Kenya

Finally, the correlation results showed that inventory management is positively and significantly related with customer service delivery among petroleum firms in Kenya ( $R = 0.789$ ,  $Sig < 0.05$ ) implying that improvement in various indicators of inventory management such as introduction of just in time techniques, demand forecasting, stock taking procedures, and vendor managed inventory resulted to a significant improvement in customer service delivery among petroleum firms in Kenya. This finding is consistent with the argument by Chen and Paulraj, (2004) who argued that inventory management improves the customer delivery of the buying firm thus enhancing its competitive advantage.

#### Regression Analysis

The coefficient of determination (R-square) was 0.728 implying that the four variables jointly accounted for up to 72.8% of the variation in customer service delivery among petroleum firms. It follows 27.2% of the variation in customer service delivery among petroleum firms was accounted for by other factors not covered in the model presented in this study.

**Table 6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.853	0.728	0.709	0.225164

**Table 7: Analysis of Variance (Model Significance)**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	8.003	4	2.001	39.464	0.000
Residual	2.991	39	0.051		
Total	10.994	43			

**Table 8: Regression Coefficients Results**

	Beta	Std. Error	T	Sig.

(Constant)	0.045	0.352	0.128	0.007
E procurement practices	0.164	0.037	4.432	0.000
Supplier Evaluation	0.122	0.029	4.207	0.001
Supplier relationship management	0.191	0.055	3.473	0.003
Inventory management	0.694	0.110	6.309	0.000

**The optimal regression equation was as shown below**

Customer servicelevel among Petroleum firms = 0.045 + 0.694 (Inventory management) + 0.164 (E procurement practices) + 0.122 (supplier evaluation) + 0.191 (supplier relationship management)

The regression model reveals that the most significant is inventory management among petroleum firms (t = 6.309) followed by E procurement practices (t = 4.432), supplier evaluation (t = 4.207) and lastly supplier relationship management (t = 0.191).

The F statistic indicating the overall significance of the model was significant at 5% (Sig < 0.000) showing that the model was significant. The F calculated statistic of 39.464 > F (4, 159) critical value of 2.429 confirming that the model was significant. The model significance results therefore imply that the four independent variables of E procurement practices, supplier evaluation, supplier relationship management and inventory management adopted in the study are suitable factors in predicting variation in customer service delivery among petroleum firms.

The regression results revealed that E procurement practices positively and significantly influenced customer service delivery among petroleum firms. (Beta = 0.191, Sig < 0.05). This implies that a unit increase in various indicators of E procurement practices such as enterprise resource planning systems, electronic payments systems electronic tendering systems and resulted to 0.191 unit improvements in customer service delivery among petroleum firms in Kenya. The findings are consistent with Homburg, Krohmer, Cannon and Kiedaisch

(2002) who established that E procurement practices improves supplier quality performance thus leading to an improvement in the customer service delivery among petroleum firms.

The regression results on supplier evaluation further showed that this variable positively and significantly influenced customer service delivery among petroleum firms in Kenya (Beta = 0.122, Sig < 0.05) implying that a unit increase in supplier evaluation indicators such as as the buyer to supplier information sharing, buyer to supplier performance feedback, investment in inter-organizational information technology, adoption and use of Enterprise Resource Programs and development of good communication channels resulted to 0.122 unit improvement in customer service delivery among petroleum firms in Kenya. These results showed that supplier evaluation is an important factor when a firm needs to improve its customer service delivery among petroleum firms. The results agree with Sanders, Chad, Autry, David and Gligor, (2011) who indicated that buyer-to-supplier information sharing through better supplier evaluation mechanisms leads to an improvement in customer performance of the organizations.

The regression results further showed that supplier relationship management positively and significantly affected customer service delivery among petroleum firms (Beta = 0.164, Sig < 0.05) implying that a unit increase in indicators of suppliers evaluation such as supplier recognition after evaluation, supplier certification after evaluation, evaluation of supplier capability of controlling quality, and evaluation of suppliers overall performance to ensure compliance to buyers policies resulted to 0.164 unit improvement



in procurement performance among Petroleum firms. The findings are consistent with Wagner (2010) who argued that supplier development programs such as supplier evaluation are linked to an improvement in procurement performance.

The regression results finally showed that inventory management had a positive and significant influence on customer service delivery among Petroleum firms (Beta = 0.251, Sig<0.05). This implies that a unit improvement in indicators measuring inventory management such as introduction of supplier to financial institutions, equipment donations to suppliers, down payments before delivery, loan extension to suppliers and support in labour resulted to 0.251 improvement in customer service delivery among petroleum firms. The findings are consistent with Kamau (2013) who argued that financial support which is an indicator of better supplier relationship management, leads to an improvement in customer service delivery.

## **CONCLUSIONS**

Based on the study findings, it was concluded that E-procurement practices is an important determinant of customer service delivery among Petroleum firms in Kenya. It can be concluded that Petroleum firms need to invest in electronic procurement activities such as enterprise resource planning systems, electronic payment systems and electronic tendering system. These enhance the customer service delivery. The study also concluded that supplier evaluation is very important to the customer service delivery among petroleum firms in Kenya. Supplier evaluation can also be understood as the strategy to effectively evaluate and give feedback on supplier improvements. This study concludes that among the determinants of procurement practices on customer service delivery among Petroleum firms in Kenya are supplier evaluation such as supplier recognition after evaluation, supplier certification after evaluation, evaluation of supplier capability of quality control,

and evaluation of suppliers overall performance to ensure compliance to buyers policies.

The study concluded that the supplier relation management such as good communication between supplier and buyer also plays an important role in customer service delivery among Petroleum firms perform in the long run. It was concluded that there is a need for procurement officers in Petroleum firms in Kenya be proactive enough by establishing ways of analysing supplier relationship management such as such as the supplier collaboration, supplier development, timely information, as these practices enhances the customer service delivery.

The study concludes that effectiveness inventory management system such as just in time contributes to ability to maintain optimum stocks. Dependability of demand forecasting, planning for production requirement and reduced lead times also contributes to optimal stock levels which ultimately improves the customer service delivery of the Petroleum firms in Kenya.

## **RECOMMENDATIONS**

The study recommended that for improved electronic procurement practices among Petroleum firms, there was need to focus on key electronic procurement activities such as enterprise resource planning systems, electronic payment systems, e-tendering and customer service delivery.

Another recommendation made by the study is that for petroleum firms in Kenya to improve on their effective procurement practices, there is need to pay close attention to supplier evaluation such as supplier recognition after evaluation, supplier certification after evaluation, evaluation of supplier capability of controlling quality, and evaluation of suppliers overall performance to ensure compliance to buyers policies as these practices enhances the customer service delivery among petroleum firms.

The study recommended that for the purpose of improving procurement performance among

Petroleum firms, there is need for the procurement department in petroleum firms to focus on supplier relationship management activities such as the good buyer to supplier information sharing, buyer to supplier performance feedback, investment in inter-organizational information technology to assist the suppliers on timely information.

The study finally concluded that the process of materials coming into the firms should be effectively and efficiently controlled through Just-In-Time techniques and ensuring that the receiving bay or section is at most proximal location. Just in time techniques of handling should be used for handling outlined materials correctly while putting the consideration that extra handling does not add value. Quantity and quality inspection should always be

done and ensuring that there is no traffic of materials in the receiving section. These activities enhance the customer service delivery of the petroleum firm as they ensure the right quality is received, extra costs are not incurred and production is not delayed.

#### **Areas for further Research**

The study recommended that a replication of the above study should be carried out in the East African countries within the Petroleum Industry in order to establish whether similar findings will be obtained. The study also recommended that further research should be carried out to assess the impact of non-procurement practices on service delivery in other industries in Kenya other than the Petroleum Industry.

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