Effect of E-Procurement on Procurement Performance in Kenya Ports Authority

Penina Mwita 1 & Stephen Mwaighacho 2
1 Master of Science in Procurement & Logistics student, College of Human Resource Development
2 Lecturer, COHRED, Jomo Kenyatta University of Agriculture and Technology.

Abstract: E-Procurement system is an automated system that enhances efficiency in planning, budgeting, procurement and management in national and county governments. Most of the organizations are struggling to adopt E-Procurement which is believed to be the best in curbing transparency and accountability issues in procurement. The study used primary data which was collected through use of questionnaires with respondents as procurement, finance and line managers of KPA. The general objective is to determine effects of E-procurement on procurement performance in Kenya Ports Authority. The specific objectives were to establish effect of E-procurement policy, E-procurement technologies, E-procurement staff competencies. The study examined three theories of procurement. Contingency theory which formulates abroad generalization about the formal structures that are associated with various technologies, meta theory that deals with integration and synthesis technical orientations related to information system on how they operate and stakeholder theory that involves all policy makers, management and other professionalism in ensuring that the E-Procurement system work outs well. The study targeted all the 158 employees from three departments at KPA. The sample size for the study was 48 respondents which represented 30% of all employees working in procurement, finance and human resource department at KPA. A modified Likert Scale questionnaire was developed divided into three parts. A pilot study was carried out to define the instruments. The quality and consistency of the study was further asserted using Cronbach’s alpha. Data analysis was performed on a PC computer using Statistical Package for Social Sciences (SPSS version 22). Analysis was done using percentages, means and standard deviations, regression, correlation and the information generated were presented in form of tables and graphs. The study concluded that all the four variables had a strong positive significant effect to the dependent variable procurement performance. The study recommended that management should invest in trainings, seminars and workshops to implement on e-procurement systems in the organization, management should embrace good ethics in terms of transparency and accountability from all its procurement personnel in order to reciprocate good image for the organization.

Key Words: Technologies, Policy, Staff Competencies & Management Support

1. Objectives of the Study
This study will be guided by the general and specific objectives.

1.1.1 General Objective
The general objective of this study will be to determine effect of E-Procurement on procurement performance in Kenya Ports Authority.

1.1.2 Specific Objectives
1 To determine effect of E-procurement technologies on procurement performance in Kenya Ports Authority.
2 To determine effect of E-procurement policy on procurement performance in Kenya Ports Authority.
3 To determine effect of E-procurement staff competencies on procurement performance in Kenya Ports Authority.
4 To determine effect of E-procurement management support on procurement performance in Kenya Ports Authority.

2.2 Theoretical Review
Theoretical literature provided a framework in which the theories relevant to the study will be based on. The theories that were of relevance to the study were the contingency theory, the meta theory, and the technology acceptance theory (Sekaran,2010) Each of them will provide framework on effects of E-procurement on procurement performance in Kenya Ports Authority.

2.2.1 Contingency Theory
Contingency theory is a theory that tries to formulate abroad generalization about the formal structures that are associated with various technologies. The Contingency Theory as described by Hersey & Blanchard, (2011) holds that there is no definite strategy management which
guarantees success of the strategy put in place. Management and firms are considered ‘open systems’ hence are prone to changes requiring different approaches to handle and solve issues. Contingency theory holds that for effective implementation practices, there has to be proper coordination of the associated variables. This study accepts the notion of contingency theory, which suggests that the selected parameters design and use must conform to its contextual factors (Pugh, 2008). However, for the purpose of this study, contingency theory is used and reviewed in a narrower focus as follows. Contingency theory represents a rich blend of organizational theory such as organizational decision making perspectives and organizational structure (Lawrence & Lorsch, 2010). The essence of the contingency theory paradigm is that organizational effectiveness results from fitting characteristics of the organization, (such as its strategies to contingencies that reflect the situation of the organization (Lawrence & Lorsch, 2010).

2.2.2 Meta Theory

Meta theory is defined as the integration and synthesis technical orientations, cognitive as well as the overarching model related to integrated information systems and which gives explanation on how they operate (Mokaya, 2012). The main purpose of the theory implementation was to enhance understanding of information systems within the technological systems (Champ & Weger, 2010). Meta theory hold that contingency factors, technological changes and organizational parameters influence greatly on the performance of various tasks within an organizational context. (Gerald & Phil, 2012), describes Meta theory as an integrated system that is used to explain many disciplines, therefore this study will focus mainly on how it is related to information systems management. Meta theory helps in understanding of different limitations involved in technological systems such as failure to recognize the task to which the system is being applied and the adaptive measures (Orodho, 2014).

2.2.3 Stakeholder Theory

The Stakeholder Theory exhaustively covers the various stakeholders involved in successful implementation of the E-procurement in public procurement organization such as management, researchers, donors, suppliers and even the ultimate users of the E-procurement system (Grey & Laura, 2009). The Stakeholder Theory explains how these elements influence successful implementation of E-procurement system in public procurement organization. It is on this basis that this study is grounded on this theory. Suppliers and entire organization are stakeholders in implementation of the E-procurement therefore it is important to involve them in implementation stage from the start.

2.4 Conceptual Framework

Mugenda & Mugenda (2008) defines conceptual framework as a concise description of phenomenon under study accompanied by a graphical or visual depiction of the major variables of the study.

![Figure 2.1 Conceptual Framework](image-url)
RESEARCH METHODOLOGY

3.1 Introduction
This chapter outlines the research methodology and design that will be used to carry out the study. The chapter also outlines the target population, type of data collected, sampling frame, sample and sampling technique used, sample size, data collection procedures, pilot test, validity and reliability of the instrument used as well as the data analysis techniques and parameters used and how the data will be presented.

3.2 Research Design
The researcher will adopt descriptive research design. Descriptive study is concerned with finding out who, what, where and how much of a phenomenon, which is the concern of the study. The design best fit in the ascertainment and description of characteristics of variable in this research study and allows for use of questionnaires, interviews and descriptive statistics such as frequencies and percentages. In addition a descriptive design is appropriate since it will enable the researcher to collect enough information necessary for generalization (Kothari, 2010).

3.3 Target Population
The study will target KPA staff workers in the organization. Kenya Since the study is descriptive in nature, Mugenda, (2013) recommends a sample of size of ten percent. However (Mugenda & Mugenda, 2014) recommends that a sample size be as large as possible in order to reproduce salient characteristics of the accessible population to an acceptable level as well as to avoid sampling errors.

<table>
<thead>
<tr>
<th>Department</th>
<th>Target Population</th>
<th>Percentage</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement</td>
<td>40</td>
<td>30%</td>
<td>12</td>
</tr>
<tr>
<td>Finance</td>
<td>53</td>
<td>30%</td>
<td>16</td>
</tr>
<tr>
<td>Human Resource</td>
<td>65</td>
<td>30%</td>
<td>20</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>158</strong></td>
<td></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

(Sources 2016)

3.4 Sample Size
Mugenda and Mugenda (2012) asserts that sampling is that part of the statistical practice concerned with the selection of individual or observations intended to yield some knowledge about a population of concern, especially for the purpose of statistical inferences. They advise that a researcher would have to use 30% of the total target population as a sample for it to be accepted as a good representative sample.

3.5 Sampling Technique
Stratified random sampling method will be used to select relevant respondents from various departments of KPA. Mugenda and Mugenda (2009) argue that stratified random sampling is where a given number of cases are randomly selected from each population sub-group. It thus ensures inclusion in the sample of subgroup which otherwise could be omitted entirely by other sampling methods. In this case stratification will be based on various departments in KPA. Simple random sample is then drawn from each stratum, and then those sub-samples joined to form complete stratified samples. In addition proportional allocation is done, where each stratum contributed to the sample a number that is proportional to its size in the population (Ashton, 2012).

3.6 Data Collection Procedures
The researcher will use structured questionnaires to collect data from KPA respondents. A questionnaire with high reliability would receive similar answers if it is done again and again or by other researchers (Ibrahim & Morgan, 2007). In addition the questionnaires are convenient for the task in that they can be easily and conveniently administered with the study sample. The use of questionnaire is cost effective, less time consuming as compared to the use of interview. Data collected through the use of well-structured questionnaire is easy to analyze.

3.7 Pilot Study
The questionnaires will be pilot tested before the actual data collection. This will involve a few respondents from KPA to ascertain its effectiveness. The researcher will be interested in...
testing the reliability of the research instruments, the questionnaire hence validity of data collected. Validity is the accuracy and meaningfulness of inferences which are based on the research results (Mugenda & Mugenda, 2013) asserts that reliability is done using Cronbach’s Alpha Model on SPSS. Mugenda & Mugenda (2013) assert that reliability is the measure of the degree to which research instrument yields consistent results or data after repeated trials. The researcher will do a pilot with 10 respondents before distributing the questionnaire. The purpose is to ensure that those items in the questionnaire are clearly stated and have the same meaning to all respondents. At the same time the researcher will help to determine how much time is required to administer the questionnaire. Respondents for pre-testing will not form part of the sample.

3.8 Data Processing, Analysis and Presentation
The data will be analyzed using descriptive statistics. This will involve quantitative and qualitative analysis. The data collected by various instruments will be first thoroughly edited and checked for completeness and comprehensibility. The edited data will be summarized and coded for easy classification in order to facilitate tabulation. The researcher will analyze the data using statistical package for social sciences (SPSS) version 22. Tables and charts will be used to simplify and clarify research. The relationship between the dependent and the independent variables will be as follows;

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon
\]

\(Y\) = Represents the dependent variable, Implementation of IFMIS in public procurement organization
\(\alpha\) = Constant
\(\beta_1, \beta_2, \beta_3, \beta_4\) = Partial regression coefficient
\(X_1\) = E-procurement Technologies
\(X_2\) = E-procurement policy
\(X_3\) = E-procurement Staff Competencies
\(X_4\) = E-procurement on individual user factor
\(\varepsilon\) = error term or stochastic term

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction
This chapter presents analysis of the data on the effect of e-procurement on procurement performance in Kenya Ports Authority. The chapter also provides the major findings and results of the study and discusses those findings and results against the literature reviewed and study objectives. The data is mainly presented in frequency tables, means and standard deviation.

4.2 Discussion of Findings

4.2.1 E-Procurement Technologies
Table 4.3 E-Procurement Technologies

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The system is easy to use by the supplier</td>
<td>46</td>
<td>3.54</td>
<td>.982</td>
</tr>
<tr>
<td>There is use of modern system to control all procurement process online</td>
<td>46</td>
<td>3.57</td>
<td>1.047</td>
</tr>
<tr>
<td>The use of e-procurement has added competitive advantage</td>
<td>46</td>
<td>3.85</td>
<td>.942</td>
</tr>
<tr>
<td>There is increased efficiencies and effectiveness with the use of the e-procurement system</td>
<td>46</td>
<td>3.93</td>
<td>.854</td>
</tr>
</tbody>
</table>
E-procurement system has helped realized significant reduction in costs and accountability

Valid N (listwise) 46

The first objective of the study was to assess effect of e-procurement technologies on procurement performance. Respondents were required to respond to set questions related to procurement performance and give their response. Most of the respondents agreed that e-procurement system had helped realized significant reduction of costs and accountability issues made clear to the relevant persons with a mean score of 4.11 and a standard deviation of 85%. Procurement activities need to be beefed up with best technologies in order to enhance efficiency and effectiveness (Porter, 2009). Most of the respondents agreed that the system was easy to be used by the supplier on issues of filling an order online and submitting quotation online with a mean score of 3.54 and a standard deviation of 98%. The statement signifies high response rate from the respondents.

4.2.2 E-Procurement Policy

The second objective of the study was to establish effect of e-procurement policy on procurement performance at Kenya Ports Authority. The respondents had a strong agree opinion that the organization had improved transparency of public procurement process with a mean score of 4.26 and a standard deviation of 74% signifying high rate response rate. According to public procurement asset and disposal act 2015, transparency is a very crucial element in any practicing of procurement entity. Most of the respondents agreed that there was full participation of suppliers in the organization procurement activities with a mean score of 4.26 and a standard deviation of 83%. This clearly indicates that Kenya Port Authority as an organization is putting much efforts and mechanisms into place to ensure fully involvement of suppliers in the activities thus enhance efficient and effectiveness (Gachanja, 2015). Most of the respondents agreed that there was improved effectiveness of public spending with a mean score of 4.09 and a standards deviation of 81%. The results positively signifies that the organization has invested much effort in controlling spending of the money in ensuring that accountable and utilization of the resources adequately for the intended purpose with quarterly auditing measures in place for the purpose of accountability (Oyaro, 2014).

<table>
<thead>
<tr>
<th>Table 4.4 E-Procurement Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved transparency of public procurement process</td>
</tr>
<tr>
<td>There is enablement of cross border e-procurement</td>
</tr>
<tr>
<td>There is full participation of suppliers</td>
</tr>
<tr>
<td>There is improved effectiveness of public spending</td>
</tr>
<tr>
<td>Improved transparency of public procurement process</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
</tr>
</tbody>
</table>
4.2.3 E-Procurement Staff Competency

The third objective of the study was to explore e-procurement staff competence effect on procurement performance at Kenya Ports Authority. Most of the respondents agreed that training programs on e-procurement have helped suppliers increase the usage of the system with a mean score of 3.93 and a standard deviation of 85%. This clearly indicates high response rate where KPA has gone to a greater level of adopting and implementing usage of e-procurement system by its suppliers (Oyaro, 2014). Most of the respondents agreed with the opinion that organization should embrace and provide continuous training to the suppliers on the effective use of e-procurement system with a mean score of 4.09 and a standard deviation of 84%. This is tremendous indicator of positively implementation of the system.

<table>
<thead>
<tr>
<th>Table 4.5 E-Procurement Staff Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Training programs on e-procurement have helped suppliers increase the usage of the system</td>
</tr>
<tr>
<td>Organization should provide continuous trainings to the suppliers</td>
</tr>
<tr>
<td>Supplier training on e-procurement is seen as a tool to boost success of the system</td>
</tr>
<tr>
<td>Organization should embrace and encourage suppliers to use the e-procurement system</td>
</tr>
<tr>
<td>Organization should offer short and long term trainings on the usage of e-procurement system</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
</tr>
</tbody>
</table>

4.2.4 E-Procurement Management Support

The fourth objective of the study was to determine effect of e-procurement management support on procurement performance at Kenya Ports Authority. Most of the respondents agreed that managing the processes and supply base efficiently would increase and leverage value money objective of the organization with a mean score of 4.22 and a standard deviation of 73%. This is a clear positive indicator of the organization having a paradigm shift in the way it is handling its procurement activities towards attaining and achievement of the objectives set. Most of the respondents agreed that management support is crucial in any procurement functioning and running activities in terms of making policies and regulations that spearhead proper running and functioning of the procurement department. Most of the respondents agreed with the opinion that developing strong relationships with suppliers will initiate a rampant impact to the organization in terms of quality and collaboration on the issues of needs and user requirements with a mean score of 4.11 and a standard deviation of 82%.
### 4.2.5 Procurement Performance

| Table 4.7 Procurement Performance |

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training programs on e-procurement have helped suppliers increase the usage of the system</td>
<td>46</td>
<td>4.11</td>
</tr>
<tr>
<td>There is increased efficiencies and effectiveness with use of e-procurement system</td>
<td>46</td>
<td>4.09</td>
</tr>
<tr>
<td>The use of e-procurement has added competitive advantage</td>
<td>46</td>
<td>3.96</td>
</tr>
<tr>
<td>The use of e-procurement system has curbed many corruptions cases</td>
<td>45</td>
<td>4.07</td>
</tr>
<tr>
<td>The implementation of e-procurement system has improved public procurement in public organization</td>
<td>46</td>
<td>4.20</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>
The fifth objective of the study was to determine effect of e-procurement implementation on the procurement performance at Kenya Ports Authority. The results shows that most respondents agreed on the opinion that the implementation of the e-procurement system had improved public procurement in public institutions with a mean score of 4.20 and a standard deviation of 73% which signifies a high response rate. According to Public procurement asset and disposal Act 2015, implementation of e-procurement systems is a challenge and it takes time for the organization to change to new systems. Most of the respondents agreed that the usage of e-procurement had narrowed and curbed most of issues revolving around corruption thus initiating a mechanism of all activities done online and monitored by authorized vetted procurement personnel only.

4.3 Regression Analysis

4.3.1 Analysis of Variance (ANOVA)

Analysis of variance is a data analysis procedure that is used to determine whether there are significant differences between two or more groups or samples at a selected probability level (Mugenda, 2003). Based on the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall Anova results indicates that the model was significant at F = 1.405, p = 0.000.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>88.543</td>
<td>4</td>
<td>22.136</td>
<td>3.405</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>260.034</td>
<td>40</td>
<td>6.501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>348.578</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Procurement Performance
b. Predictors: (Constant), E-Procurement Management Support, E-Procurement Technologies, E-Procurement Staff Competencies, E-Procurement Policy

4.3.2 Multiple Regression Analysis

Multiple Regression attempts to determine whether a group of variables together predicts a given dependent variable (Mugenda, 2003).

Table 4.9 Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>11.786</td>
<td></td>
<td>2.925</td>
<td>.000</td>
</tr>
<tr>
<td>E-Procurement technologies</td>
<td>.433</td>
<td>.137</td>
<td>.509</td>
<td>.000</td>
</tr>
<tr>
<td>E-Procurement Policy</td>
<td>.255</td>
<td>.167</td>
<td>.258</td>
<td>.000</td>
</tr>
<tr>
<td>E-Procurement staff</td>
<td>.021</td>
<td>.155</td>
<td>.023</td>
<td>.000</td>
</tr>
<tr>
<td>E-Procurement management</td>
<td>.259</td>
<td>.155</td>
<td>.243</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Procurement Performance

The regression equation was:

\[ Y = 11.786 + 0.433X_1 + 0.255X_2 + 0.021X_3 + 0.259X_4 \]

Where;

\[ Y \) = the dependent variable (Procurement Performance)  
\[ X_1 \) = E-Procurement Technologies  
\[ X_2 \) = E-Procurement Policy  
\[ X_3 \) = E-Procurement Staff Competencies  
\[ X_4 \) = E-Procurement Management Support

The regression equation above has established that taking all factors into account (Procurement Performance as a result of e-procurement technologies, policies, staff competencies and
management support) constant at zero procurement performance at KPA was 11.786. The findings presented also shows that taking all other independent variables at zero, a unit increase in e-procurement technologies will lead to a 0.433 increase in the scores of procurement performance at KPA; a unit increase in e-procurement policy will lead to a 0.255 increase in procurement performance at KPA; e-procurement staff competencies will lead to a 0.025 increase procurement performance at KPA and a unit increase in e-procurement management support will lead to a 0.259 increase in procurement performance. This therefore implies that all the four variables have strong positive significance relationship with procurement performance the dependent variable.

4.4 Correlation Analysis

The correlation technique is used to analyse the degree of relationship between two variables.

4.4.1 Correlation Coefficient

The correlation coefficient tells the researcher the magnitude of the relationship between two variables and the direction of the relationship between two variables.

Table 4.10 Correlation Coefficient

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.704*</td>
<td>.254</td>
<td>.179</td>
<td>2.54968</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-Procurement Management Support, E-Procurement Technologies, E-Procurement Staff Competencies, E-Procurement Policy

Table 4.10 showed that the coefficient of determination was 25.4% Coefficient Correlation 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 independent variables. From the findings this meant that 25.4% of procurement performance is attributed to combination of the four independent factors investigated in this study.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings in line with the objectives, draws conclusions and makes the necessary recommendations. Areas of further study that may enrich the study are also suggested.

5.2 Summary of Findings

The main objective of the study was to determine the effect of e-procurement on procurement performance in Kenya Ports Authority. To collect data the researcher used a structured questionnaire that was personally administered to the respondents. The respondents were the employees of Kenya Ports Authority. In this study, data was analyzed using frequencies, mean scores, standard deviations, percentage, analysis of variance and Regression analysis.

From the findings, majority of the respondents were from procurement department. On education level majority of respondent had bachelor degree education. On working experience majority had worked for 5-11 years in the organization.

5.2.1 E-Procurement Technologies

Most of the respondents agreed that e-procurement system had helped realized significant reduction of costs and accountability issues made clear to the relevant persons with a mean score of 4.11 and a standard deviation of 85%. Procurement activities need to be beefed up with best technologies in order to enhance efficiency and effectiveness (Porter, 2009). Most of the respondents agreed that the system was easy to be used by the supplier on issues of filling an order online and submitting quotation online with a mean score of 3.54 and a standard deviation of 98%. The statement signifies high response rate from the respondents.

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Most of the respondents agreed that there was full participation of suppliers in the organization procurement activities with a mean score of 4.26
and a standard deviation of 83%. This clearly indicates that Kenya Port Authority as an organization is putting much efforts and mechanisms into place to ensure fully involvement of suppliers in the activities thus enhance efficient and effectiveness (Gachanja, 2015). Most of the respondents agreed that there was improved effectiveness of public spending with a mean score of 4.09 and a standards deviation of 81%. The results positively signifies that the organization has invested much effort in controlling spending of the money in ensuring that accountable and utilization of the resources adequately for the intended purpose with quarterly auditing measures in place for the purpose of accountability (Oyaro, 2014).

5.2.3 E-Procurement Staff Competencies
Most of the respondents agreed that training programs on e-procurement have helped suppliers increase the usage of the system with a mean score of 3.93 and a standard deviation of 85%. This clearly indicates high response rate where KPA has gone to a greater level of adopting and implementing usage of e-procurement system by its suppliers (Oyaro, 2014). Most of the respondents agreed with the opinion that organization should embrace and provide continuous training to the suppliers on the effective use of e-procurement system with a mean score of 4.09 and a standard deviation of 84%. This is tremendous indicator of positively implementation of the system.

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Most of the respondents agreed that management support is crucial in any procurement functioning and running activities in terms of making policies and regulations that spearhead proper running and functioning of the procurement department. Most of the respondents agreed with the opinion that developing strong relationships with suppliers will initiate a rampant impact to the organization in terms of quality and collaboration on the issues of needs and user requirements with a mean score of 4.11 and a standard deviation of 82% (Elliot, 2011).

5.2.5 Procurement Performance
The results shows that most respondents agreed on the opinion that the implementation of the e-procurement system had improved public procurement in public institutions with a mean score of 4.20 and a standard deviation of 73% which signifies a high response rate. According to Public procurement asset and disposal Act 2015, implementation of e-procurement systems is a challenge and it takes time for the organization to change to new systems. Most of the respondents agreed that the usage of e-procurement had narrowed and curbed most of issues revolving around corruption thus initiating a mechanism of all activities done online and monitored by authorized vetted procurement personnel only (Grant, 2003).

5.3 Conclusions
From the research findings, the study concluded all the independent variables studied have positive significant effect on procurement performance at KPA as indicated by the strong coefficient of correlation and a p-value which is less than 0.05. The overall effect of the analyzed factors was very high as indicated by the coefficient of correlation. This implies that the studied independent variables namely e-procurement technologies, e-procurement policy, e-procurement staff competencies and e-procurement management support have significant effect on procurement performance at KPA.

5.4 Recommendations
Procurement management and executive courses and seminars should be held to address the effect of automation on the procurement function.

Basic procurement courses should be revised to present automated contracting processes and techniques.

Business and political representatives need to be educated on the dynamic changes that information technology will bring to procurement and markets.

Management in respective procurement doctrines should initiate on board trainings for suppliers on the usage and implementation of the e-procurement system.

Government, key stakeholders, procurement bodies and county government should sensitize and educate all relevant key players and users on the importance of practicing good values when in any procurement position.

Government and procurement bodies should invest more on e-procurement systems across all the organizations to enhance effectiveness and efficiency of the procurement activities.

Management in procurement should benchmark with other best countries that have best e-procurement systems in order to cope and being able to implement them in the organization procurement systems.

5.5 Limitation of the Study
The researcher faced constraint of access to valuable data due to bureaucracy and this proved time consuming. Time and financial resources constrains were met and dealt with through proper planning allocation.
5.6 Suggestion for Further Research Studies

There is scope for further development of this study. The study was limited to Kenya Port Authority. The researcher would thus recommend for further study in the topic of effects of e-procurement adoption on procurement performance.

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