CHALLENGES AFFECTING THE IMPLEMENTATION OF E-PROCUREMENT IN COUNTY GOVERNMENTS IN KENYA: A CASE OF SIAYA COUNTY GOVERNMENT.

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ABSTRACT
This study is about the challenges affecting the implementation of E-procurement in the public sector a case of Siaya County. The general aim of this study was to evaluate the challenges affecting the implementation of e-procurement in the county government in Kenya a case of SiayaCounty. The specific objectives was to find out the effects of resources allocation on the implementation of e-procurement in Siaya county government, to determine how information technology was affecting implementation of e-procurement in the county government of Siaya, In which way was the government policy affecting the implementation of e-procurement in the county government of Siaya, and to investigate the impact of Organization structure on effective implementation of e-procurement in Siaya County government. The study adopted descriptive research design. The study targeted 270 staff and users of e-procurement in SiayaCounty eg suppliers. Regression, Correlation and ANOVA was used in inferential statistical analysis. The study revealed that the county government provides resources to its employees to implement e-procurement system. The study found that resource allocation has a significance positive influence on the implementation of e-procurement Performance at Siaya county government, demonstrating that a unit increase in resource allocation would results into increase in implementation of e-procurement system to a great extent. The study found that information technology improves implementation of e-procurement in county governments to a great extent. The finding revealed that government policy plays a significant role in achievement of the implementation of e-procurement in county government in Kenya. The study concluded that organization structure has a significant contribution to the implementation of e-procurement systems to a great extent. The study concluded that resource allocation significantly improve timeliness in the implementation of e-procurement, lead time in procurement and improve efficiency in procurement process. The study concluded that information technology improves implementation of e-procurement in county governments in Kenya to a great extent. The study recommends that Siaya county government should foster resource allocation, information technology, and government policy and improve on organization structure in the implementation of the e-procurement to achieve its objectives.
Keywords: Resources allocation, information technology, implementation of e-procurement in government policy, the county government of Siaya

INTRODUCTION
E-procurement and its use according to Bialyet al, (2008), e- Procurement is done with a software application that includes features for supplier management and complex auctions. The new generation of e- procurement is currently on demand or software as a service (SaaS). The e-procurement value chain comprises indent management, e- tendering, e- auctioning, vendor management, catalogue management and contract management. Indent management is the workflow involved in the preparation of tenders. This part of value chain is optional, with each procuring department defining its indenting process. As concerns works procurement, administrative approval and technical sanction are obtained in electronic format. On the other side, in goods procurement, indent generation activity is done online. The end result of the stage is taken as inputs for issuing the NIT (Peter, 2012). e- Procurement (or Business- to- Business networks) is an online system by which companies can be connected directly to suppliers for the purpose of buying products and services at the lowest cost possible. e- Procurement essentially replaces its offline version, called tender.

The advantages and disadvantages of e- Procurement mostly parallel the universal benefits and disadvantages of the internet. The public sector organizations use e- Procurement for contracts to achieve benefits for example increased efficiency and cost savings, faster and cheaper in government procurement (Acher 2005) and improved transparency, to reduce corruption, in procurement services. e- Procurement in the public sector has seen rapid growth in recent years. E- Procurement in the public sector is emerging internationally; hence, initiatives have been implemented in Singapore, UK, USA, Malaysia, Australia and European Union. e- Procurement projects are often part of a country’s larger e- Government efforts to better serve its citizen and businesses in the digital economy. For instance, Singapore’s GeBIZ was implemented as one of the programmes under its e- Government master plan (Thai, 2004). Globally, e-procurement has been a neglected area of academic education and research, although governmental entities, policy-makers, and public procurement professionals have paid a great deal of attention to procurement improvements and reforms (Thai, 2004).

The introduction of an e-Procurement system has been identified as a mechanism for many countries to improve their procurement processes and thereby reduce the cost of procurement and deliver better value for money. E-procurement is the use of secure web-based platforms by the government as a buyer to communicate with bidders in a paperless environment, free from the inconveniences, delays, and physical insecurities of any kind. However the phrase "e- Procurement" can cover a number of elements including: ·The ability to download bidding documents from a website, Submission of bids through an electronic tender box, The development of Management Information Systems to assist with procurement reporting as well as oversight and monitoring and The publication of contract awards on the website of a procurement regulatory or oversight body (Bruno et.al, 2005).

The acceptance of e-procurement, especially in Africa, has been a bit patchy since its inception in the 1990s where it was launched as a method of conducting simple purchasing transactions
over the Internet. It has nonetheless evolved into a complex marketplace with many players offering a variety of services from catalogue maintenance and hosting to managing tenders and auctions on behalf of clients (Almeida & Smith, 2004).

In the Kenyan market, research conducted by Humphrey, et al. (2003) revealed that conducting e-commerce is mostly meant for provisions that enable the firms identify trading partners that they could contact off-line with a view to doing business. The follow-up to an initial contact generally is to taking place through other channels such as e-mail, hyperlink, the telephone, fax or the post. Despite the benefits of e-procurement as recognized by managers such as better coordination with suppliers, quicker transaction times, higher flexibility, better supplier integration, and lower costs (Kheng and Hawamdeh, 2002), it is clear that implementation of e-procurement is still very low (Gunasekaran and Ngai, 2008).

STATEMENT OF THE PROBLEM

In the modern competitive business environment, organizations need to embrace information communications technology in order to remain competitive. A number of public sector agencies worldwide have identified E-Procurement as a priority government agenda and have implemented or are in the process of implementing e-procurement systems (Kishor et al, 2006). According to ROK, (2009), the five years ending 2007 had indeed been a period when government took bold steps to implement reforms under the Economic Recovery Strategy for Wealth Creation (ERS). As a result, real GDP grew steadily from 0.5% in 2002 to 7% in 2007 and per capita income increased from US$ 430 to US$735. E-procurement implementation was one of the strategy framework that have been identified to yield significant benefits for government in terms of procurement cost reduction, enhancing efficiency and fighting corruption considering that 60% of government expenditure is spent through public procurement. Globally, 60% of Information Technology applications in public procurement initiatives and projects do not deliver the expected benefits, (Soudry, 2007).

Despite the great benefits of e-procurement technologies, its implementation is still at early stages (Aboelmaged, 2010). Studies done locally on the implementation of e-procurement have concentrated on other sectors other than the county governments, (Kangogo & Gakure, 2013; Odago & Mwajuma 2013) & European Journal of Business Management Vol.2, Issue 1, 2014 http://www.ejobm.org ISSN 2307-6305| Page 4 Omany et al., 2013). According to Kangogo and Gakure, (2013), private entities such as Nation Media Group and Second-hand Motor vehicle importers have successfully embraced the use of e-procurement technology. This diverse nature of the outcomes in implementation of e-procurement systems may have attracted a number of researchers who want to understand the reasons for this diversity. Kishor et al, (2006) concluded that if e-Procurement initiatives in the public sector are to assist the development of e-procurement across the information economy, there should be wider discussion on what constitutes the critical success factors (CSF). A million dollar question is that despite numerous benefits on the use of E-procurement in the government, it implementation has largely been slow. Therefore there exists a gap of knowledge on challenges affecting e-procurement implementation in the county governments. This study was therefore intended to bridge the knowledge gap by seeking to examine factors affecting implementation of e-procurement in the county government in Kenya. Literature review Empirical Review According to Van, (2006), e-procurement is more likely to be beneficial in dispersed supply.
RESEARCH OBJECTIVES
1. To find out the effect of resource allocation on the implementation of E-Procurement in the Siaya County Government?
2. To determine how information technology affects implementation of e-procurement in the County Government of Siaya.
3. In which way does government policy affects the implementation of e-procurement in the County Government of Siaya?
4. To determine the influence of organization structure on effective implementation of e-procurement in Siaya County?

LITERATURE REVIEW

Theoretical Framework
Marginal Utility Theory
It is one of the tenets of classical economics that individuals will seek to equalize the marginal utility that they gain from each unit of spending across the range of goods and services they consume (Pigou in Key, 2008). In principle, governments should allocate resources on the same basis; just as an individual will get more satisfaction out of his income by maintaining a certain balance between different sorts of expenditure, so will a community through its government. The principle of balance in both cases is provided by the postulate that resources should be so distributed among different uses that the marginal rates of satisfaction is the same for all of them. Expenditure should be distributed between battleships and poor relief in such wise that the last shilling devoted to each of them yields the same real return’ (Pigou in Key, 2008:1139). This theory links effect of resource allocation on implementation of e-procurement.

This is pertinent globally, Efforts are being made across the planet to implement e-government and, although e-procurement has been one of the initial components in this incursion, it is still an early implementation due to inadequate resources. It is also important for Siaya County administration, fostering e-procurement projects because most recent technological changes, although even more disruptive, when well designed and managed, substantially increase the probability of achieving their promises. In fact, they may become the technical and administrative foundation for subsequent e-government projects (Grant & Chau, 2006). This theory is linked to resource allocation as one of the independent variables in that, if resources are availed for e-procurement implementation the returns are high in terms of reduction in cost incurred and the profitability in terms of returns received.

The Disruptive Innovation Theory
In the networked society, as citizens become savvy consumers of services through digital media, they expect a similar experience when it comes to public services. However, the literature and the evidence show that the National and County Government has lagged behind in the implementation of new technologies. This trend could be explained by the incremental nature of the State innovation adoption model and its characteristic risk aversion (Grant & Chau, 2006). This is compounded by the complexity and implementation time of technology projects that often exceed the capacity, incentives and permanence of government officials. These limitations contrast with the growing number of countries and regions pursuing some form of e-government to develop and deliver high quality, seamless and integrated public services, to redefine and
improve their government-constituency relationships, and to provide a better support for local, national or international development (Grant & Chau, 2006).

E-procurement is among the first national wide projects that are undertaken by National governments and County governments in Kenya, like Siaya County government in search for quick economic and political gains, as governments spend approximately 10 to 15 percent of their GDP in public purchases (United Nations, 2011). However, from the e-government perspective, e-procurement has a strategic importance, since its implementation necessarily crosses many institutional barriers and the silo mentality of many politicians, public managers and practitioners.

The documentation of e-procurement implementations and experiences has been based primarily on relative successes rather than its failures or unmet promises. Our literature review reveals a list of key success factors, but it also reveals that many of major promises associated with e-procurement, have not been met. It also shows that to date, all sources found failed to recognize that, for a conservative industry such as the public sector, e-procurement is a disruptive innovation. This is important because such innovations not only radically change the rules and the traditional way of doing things, but have serious implications for the design of the organization and the team that will implement and develop these initiatives (Grant & Chau, 2006).

This study was seeking to underscore the relationship between national e-procurement implementation and the County e-procurement consequences of a disruptive innovation in terms of information technology. This is vital to a more complete understanding of why some efforts have progressed more than others. Empirical evidence suggests that this distinction has greater relevance since successful cases tend to coincide with organizational arrangements and the strategy to be followed by organizations that choose to adopt disruptive innovations. This could well explain literature gaps regarding the role of innovation adoption theory in the implementation strategy and in the organizational design of e-procurement national services (Chartered Institute of Purchasing and Supplies, 2001). In this quest, the theory is linked to information technology as an independent variables in that, the implementation of e-procurement is disruptive in that it changes from time to time and it needs a lot of innovation to be in tandem with the changing technology.

The E-Technology Perspective Theory
Indeed it has been claimed that e-procurement has become the catalyst that allows organizations to finally integrate their supply chains from end-to-end, from supplier to the end user, (Gunasekeran & Ngai, 2008). In summation it is noted that the extent of e-procurement adoption remains in a formative stage, falling short of the type of e-sourcing and e-collaboration suggested by (Morris et al., 2000). The transition to modern e-procurement calls for strategic adoption (Gunasekeran & Ngai, 2008). Therefore this theory links effect of government policy on implementation of e-procurement.

According to Min and Galle (2002), e-procurement is a business-to-business (B2B) purchasing practice that utilizes electronic procurement to identify potential sources of supply, to purchase goods and service, to transfer payment, and to interact with suppliers. The internet has been widely adopted by companies with the aim of improving performances both in internal processes and in processes going beyond their boundaries (Barratt & Rosdahl, 2002). The theory suggests if government policy support e-procurement there will be effective implementation of e-procurement related activities.
The Technology Acceptance Model
Since the mid 70’s, various researchers have been interested in factors that explain or predict the use of different technologies. The Technology Acceptance Model (TAM) represents some of the explanatory model shaving most influenced the theories of human behavior (Venkatesh, Morris, Davis & Davis, (2003). The TAM was specifically developed with the primary aim of identifying the determinants involved in computer acceptance in general. Secondly, to examine a variety of information technology usage behaviors; and thirdly, to provide a parsimonious theoretical explanatory model.

TAM is rooted in social, psychology and draws on Fishbein’s and Ajzen’s reasoned action model (1975), which establishes that the intent to produce a behavior depends on two basic determinants: attitude toward behavior and subjective norms. Subjective norms refer to the reasons for producing a certain behavior or not and make the link between the latter and an expected result, whereas attitude toward behavior refers to the positive or negative value the individual associates to the fact of producing the behavior (Aboelmaged, 2010, Gabbard, 2003).

The TAM suggests that attitude would be a direct predictor of the intention of technology, which in turn would predict the actual usage of the technology. Venkatesh (2000) adds that the TAM is a good model but that it does not help understand and explain the acceptance of a technology in a way that promotes the development of a strategy having a real impact on the usability and acceptance of technology. He therefore proposed a modified model. To the TAM, be added determinants to perceived ease of use, that is, four personal anchoring factors (computer self-efficacy, perception of external control, anxiety towards computers, and computer playfulness) and two adjustment-based factors that develop with experience (perceived enjoyment and objective usefulness). These anchors represent general beliefs about computers and their use. Furthermore, they would seem to play a critical role in the formation of the perceived ease of use of a new system and would be independent of the latter.

A number of meta-analyses on the TAM have demonstrated that it is a valid, robust and powerful. Lederer, Maupin, Sena, and Zhuang (2000) have recorded more than 15 published studies that examined the existing relations between perceived ease of use, perceived usefulness, attitude towards use, and usage of information technologies over a period of 1 year (from 1989 to 1999). The results of these studies support the use of the TAM as a predictive or explanatory model of the usage of different technologies. The study used the theory of TAM to assess how users will accept and use technology in implementing the E-procurement system. The theoretical framework draws on Croom and Brandon-Jones (2007), which is found useful to understand key challenges of e-procurement implementation in government sector that includes lack of organization structure on e-procurement implementation. This theory is linked to organization structure towards adaptability of the e-procurement which suggests that, Davis and Venkatesh (2006) however, attitude would not play a significant role but rather that perceived ease of use (expectation) that a technology requires minimum effort) and perceived usefulness (perception that the use of a technology can enhance performance of a task at hand) would determine the intention to use a technology.
Conceptual Framework

**Resource Allocation**
- Human Resource
- Technological Resources
- Infrastructure Resources
- Availability of Funds

**Information Technology**
- Procurement Cost
- Operations
- Collaboration
- Systems Integration

**Organizational Structure**
- Defined job responsibilities
- Organizational polices
- ICT applications
- E-Procurement mgt sys

**Government Policy**
- Regulations
- Government support
- Policy Compliance
- Government budgetary provisions

Independent Variables

Dependent variable

Fig. 2.2: Conceptual Framework

Research Methodology
The study adopted a descriptive case study design to justify the relationship between the independent and dependent variables. The design helped in obtaining information concerning the current status of the problem under study and describe it with respect to the dependent and independent variables. The selection of individual observation is intended to yield some knowledge about a population of concern especially to the purpose of statistical inference. In this study the target population included the management team and the staff in the county government of Siaya and the suppliers. The population for this study constituted two hundred and fifty employees of the Siaya County government (Siaya Human Resource Manual, 2015) and twenty suppliers doing business with Siaya county government. This study targeted employees in the Siaya functional departments namely: (1) top managers; middle level managers; procurement unit employees, and suppliers. For the purpose of the study the sampling size constitute the list of all members at the Siaya county government plus that of suppliers. A sample of 73 respondents from within each group in proportions that each group bear to the population as whole will be taken by use of Slovin’s formula. The respondents will be selected using probability and non-probability sampling techniques. Questionnaires were used to collect required data for this study. Both quantitative and qualitative data was collected in this study. The quantitative data was collected mainly through questionnaires while qualitative data was collected using interview schedules. The questionnaires to be used for the study comprised of open and close ended questions. The advantage of using both structured and unstructured questionnaires is that they are easier to analyze and also they permit greater depth of response whereby respondents are given responsibility of giving their own personal response. The questionnaire was prepared for Top managers, Middle level managers other employees working at procurement unit and other user department and finally the interview covered suppliers in Siaya County. Descriptive statistics, which includes the mean score, standard deviation and frequency distribution, enabled the researcher to meaningfully describe the distribution of measurement. Regression analysis was used for evaluating the multiple independent variables under investigation; correlation model was also used by use of Pearson Product Moment correlation coefficient where the magnitude of the correlation coefficient indicates the strength of the association of the variables under study. Tests were conducted at 95% confidence level. The regression model took the following form. 

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon. \]

Where Y is the dependent variable (effective implementation of e-procurement), B0 is the regression constant, B1, B2, B3 and B4 are a vector of coefficients of independent variables, X1 represents resource availability; X2 represents information technology; X3 represents government policy; X4 represents organization structure. The advantages of multiple regression analysis is that this process offers a more accurate explanation of the dependent variable in that more variables are included in the analysis and that the effect of a particular independent variable is made more certain, since the possibility of distorting influences from other independent variables is removed (Sekaran, 2003).

RESULTS

Demographic Information
Gender of the respondents
The findings on gender of the respondents as indicated in Table 1, majority 53.4% of the respondents were female while 46.6% of the respondents were male. This response indicated that there was a near equal distribution of gender. In addition it shows that both genders were involved in this study and thus the finding of the study did not suffer from gender bias.
Table 1: Gender of the Respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>34</td>
<td>46.6</td>
</tr>
<tr>
<td>Female</td>
<td>39</td>
<td>53.4</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100</td>
</tr>
</tbody>
</table>

Respondent’s Highest Level of Education
The study requested the respondent to indicate their highest level of education. From the findings, 19.2% of the respondents indicated their highest education level as secondary level, 35.6% of the respondent indicated their education level as college level which indicated that they had a diploma certificate, where 45.2% of the respondents indicated their highest education level as university level which indicated that they had a degree certificate.

Table 2: Respondent’s Highest Level of Education

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>14</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
</tr>
<tr>
<td>College</td>
<td>26</td>
<td>35.6</td>
<td>35.6</td>
<td>54.8</td>
</tr>
<tr>
<td>University</td>
<td>33</td>
<td>45.2</td>
<td>45.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Job Category
This study was also interested in the job categories of the respondents in Siaya county government as shown in the table 3. 11.0% of the respondent were top level managers, 19.2% of the respondents were from the middle level management, 23.3% of the respondents were in the lower level management and finally 46.6% of the respondents were suppliers.
Four main job categories represent the job levels of the respondents. The table 3 below represents the number of respondents from each of the four levels and the percentages.

Table 3 Job Category

<table>
<thead>
<tr>
<th>Job category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top level management</td>
<td>8</td>
<td>11.0</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Middle level management</td>
<td>14</td>
<td>19.2</td>
<td>19.2</td>
<td>30.1</td>
</tr>
<tr>
<td>Lower level management</td>
<td>17</td>
<td>23.3</td>
<td>23.3</td>
<td>53.4</td>
</tr>
<tr>
<td>Supplies</td>
<td>34</td>
<td>46.6</td>
<td>46.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Length of Service
The study was also interested in the years of experience of the respondents in the county government as shown in the table 4. most (45.2%) of the respondent had worked in the Organization for a period of 1-2 years, 39.7% had worked for 2-5 years, 11% for a period of 5-8 years, while 4.1% had worked at Siaya county government for over 8 years. This indicates that most of the staff had experience in the county government due to their working duration in the Organization. This is collaborated by studies done by Job (2003) where he indicated that work related experiences are important in developing motivation of becoming good in the job designation and adoption.

Most of the respondents were new employees having served between one and two years. This group represented 45.2 percent of the population. Those who had served followed this between two and five years who represented 39.7% of the respondents. The least number of respondents indicated that they had served above 8 years.

Table 4 Length of Service
The table below shows the length of service respondents.

<table>
<thead>
<tr>
<th>Length of Service</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>33</td>
<td>45.2</td>
<td>45.2</td>
<td>45.2</td>
</tr>
<tr>
<td>2-5</td>
<td>29</td>
<td>39.7</td>
<td>39.7</td>
<td>84.9</td>
</tr>
<tr>
<td>5-8</td>
<td>8</td>
<td>11.0</td>
<td>11.0</td>
<td>95.9</td>
</tr>
<tr>
<td>above 8</td>
<td>3</td>
<td>4.1</td>
<td>4.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Descriptive Analysis

Resource Allocation
Availability of resources on implementation of e-procurement management system
The respondents were requested to indicate the extent they agreed on whether there were enough human resource to implement e-procurement in the county. From the findings in Table 4.8, the respondents strongly agreed that the county provides training to its staff as indicated by a mean of 4.75 with a standard deviation of 0.33 and that there are enough technological resources to implement e-procurement in the county government 4.71 with a standard deviation of 0.64. The responded strongly agreed that there is an inadequate financial resource to implement e-procurement systems in the county government as indicated by a mean of 4.63 with a standard deviation of 0.88. The respondent also strongly agreed that cost of purchasing and installing ICT equipments is high in county governments as indicated by a mean of 4.61 with a standard deviation of 0.50.

The respondents also agreed that on-job training enhances productivity in the organization as indicated by a mean of 4.44 with a standard deviation of 0.43, that Procurement employees have sufficient skills make informed decisions by a mean of 4.36 with a standard deviation of 0.75 and that organizations implements projects according to timeliness.

Table 5: Availability of resources on implementation of E-procurement

<table>
<thead>
<tr>
<th>Availability of resources and E-procurement</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
</table>
There are enough human resources to implement e-procurement 4.75 0.33
There are enough technological resources to implement e-procurement. 4.71 0.64
There are adequate financial resources to implement e-procurement systems in the county government 4.01 0.30
Cost of purchasing and installing ICT equipments is high in this county 4.36 0.75
Result of experience and skills, and procurement managers makes informed decisions 4.63 0.88
On job training increases organizational profitability 4.61 0.50
Skills acquired by procurement staff are relevant to their work. 4.44 0.43
The organization implements project according to timeline 4.28 0.43

**Information Technology**
Extent to which information technology influences effective implementation of e-procurement system
The study sought the extent to which information technology influence e-procurement. From the findings in Table 6 respondents strongly agreed that county government has not invested in information technology to streamline the e-procurement process as indicated by a mean of 4.73 with a standard deviation of 0.62 and that the information technology has led to reduction in procurement cost as indicated by a mean of 4.40 with a standard deviation of 0.46. The respondents also strongly agreed that the E-procurement practices are actively done in Siaya county government which enhance collaboration between suppliers and the organization as indicated by a mean of 4.66 with a standard deviation of 0.58. The respondents also strongly agreed that E-procurement are audited at regular interval as indicated by a mean of 4.68 with a standard deviation of 0.66. The respondents agreed that there e-procurement management is successful and integrate with other systems successfully as indicated by a mean of 4.51 with a standard deviation of 0.27.

**Table 6: Information Technology and E-procurement**
<table>
<thead>
<tr>
<th>Information Technology and E-procurement</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>County government has invested in information technology to streamline the e-procurement process and enhanced its operations</td>
<td>4.73</td>
<td>0.62</td>
</tr>
<tr>
<td>Information Technology has led to reduction in procurement</td>
<td>4.40</td>
<td>0.46</td>
</tr>
<tr>
<td>E-procurement practices are actively done in your organization and has enhance collaboration between suppliers and your organization</td>
<td>4.66</td>
<td>0.58</td>
</tr>
<tr>
<td>E-procurement are audited at regular interval</td>
<td>4.68</td>
<td>0.66</td>
</tr>
<tr>
<td>Our e-procurement management is successful and integrate with other systems successfully.</td>
<td>4.51</td>
<td>0.27</td>
</tr>
</tbody>
</table>
Government Policy
The respondents were requested to indicate whether there are government policy which enhance e-procurement in county governments. From the findings in Table 4.9, 68% of the respondents indicated that the county government supports the implementation of e-procurement by enacting laws which guide the operations of e-procurement, 34% indicated that the county government does not have adequate budgetary provision for implementation of e-procurement. The finding concurred with Sako, (2014) who stated that the broader procurement is aligned with the e-procurement programs that are characterized by committing financial and/ or human capital by a buyer and playing an active role in developing of e-procurement.

Table 7: Government Policy

<table>
<thead>
<tr>
<th>Government policy influence on e-procurement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support by the County government</td>
<td>47</td>
<td>68</td>
</tr>
<tr>
<td>Adequate budgetary allocation</td>
<td>24</td>
<td>34</td>
</tr>
</tbody>
</table>

Organizational Structure
The study was interested to reveal whether organizational structure affects implementation of e-procurement system. The study also analysed respondents’ perception on government policy on e-procurement in the county based on five constructs as shown in the table below. Based on the constructs an index score the study computed that averaged the responses for these constructs. The extreme high values indicate complete disagreement and lower values indicate complete agreement. The index summary is presented below.

The resource allocation score has a mean of 2.7, which suggests that most of the respondents are ambivalent about whether organization structure affects the implementation of e-procurement processes. Moreover, when asked if the organization structure influences implementation of e-procurement management systems at Siaya County Government, most of the respondents indicated that to a large extent and to a very large extent (cumulatively 63% of respondents).

Table 8 Organizational structure

<table>
<thead>
<tr>
<th>Organization Structure Score</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid N (listwise)</td>
<td>73</td>
<td>1.20</td>
<td>5.00</td>
<td>2.7288</td>
<td>.63541</td>
</tr>
</tbody>
</table>

Table 9 In general, to what extent is the organization structure affects the implementation e-procurement system in your country?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>To a very large extent</td>
<td>25</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
</tr>
<tr>
<td>To a large extent</td>
<td>23</td>
<td>31.5</td>
<td>31.5</td>
<td>65.8</td>
</tr>
<tr>
<td>To a moderate extent</td>
<td>10</td>
<td>13.7</td>
<td>13.7</td>
<td>79.5</td>
</tr>
<tr>
<td>To no extent</td>
<td>15</td>
<td>20.5</td>
<td>20.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Inferential Analysis
Correlation analysis
The study conducted a Pearson Moment Correlation analysis which is represented by \( r \). The correlation factor ranged from \(-1 \leq r \leq 1\). The acceptance confidence level was 95% or significance level of 0.05. The study found in Table 4.12 that there existed a significant positive correlation between resource allocation and implementation of e-procurement in Siaya County Government.

The study found that there existed a strong significant positive correlation \( r=0.692, P=0.001 \) between resource allocation and the implementation of e-procurement system in Siaya County Government. The correlation was statistically significant \( P=0.001<0.05 \) at 95% confidence level. The study found that there existed a strong significant correlation between information technology and the implementation of e-procurement system at Siaya County Government in Kenya \( (r=0.745) \). The correlation was statistically significant \( P=0.003<0.05 \) at 95% confidence level.

The study found that there existed a strong significant positive correlation \( r=0.511 \) between information technology and the implementation of e-procurement system at Siaya County Government in Kenya \( (r=0.511) \). The correlation was statistically significant \( P=0.001<0.05 \) at 95% confidence level. The study found that there existed a strong correlation between organization structure and the implementation of e-procurement system in Siaya County Government \( (r=0.581) \), the correlation was statistically significant \( P=0.000<0.05 \) at 95% confidence level.

The findings agreed with Forker and Hershauer (2010) who established that there existed a significant relationship between resource allocation, information technology, government policy, organization structure and implementation of e-procurement systems at Siaya County Government in Kenya.

**Table 10: Correlation Matrix Analysis**

<table>
<thead>
<tr>
<th>Implementation of e-procurement sym;</th>
<th>Resource allocation</th>
<th>Information Technology</th>
<th>Government policy</th>
<th>Organization structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>0.692(*)</td>
<td>0.745(*)</td>
<td>0.511(*)</td>
<td>0.581(*)</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.001</td>
<td>0.003</td>
<td>0.011</td>
<td>0.001</td>
</tr>
<tr>
<td>N</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.698(*)</td>
<td>0.690</td>
<td>0.523</td>
<td>0.608(*)</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.001</td>
<td>0.003</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>N</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Regression Analysis

Regression model summary result in Table 11 indicated that there existed a significant variation \( R^2 = 0.604 \), \( P=0.0011<0.05 \) in dependent variable which would be attributed to changes in independent variable. An R Square 0.64 indicated that 60.4% change in implementation of e-procurement system can be attributed to change in Resource allocation, Information Technology, Government Policy and Organization Structure. This implied that change in Resource allocation, Information technology, Government Policy and Organization Structure, would result into significant change in implementation of e-procurement system.

Table 11: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted Square</th>
<th>Std. Error of Estimate</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.784(^a)</td>
<td>.615</td>
<td>.604</td>
<td>.7628</td>
<td>.0011</td>
</tr>
</tbody>
</table>

Analysis of Variance (ANOVA)

Result in Table 12 indicated that the Total variance (63.238) was the difference into the variance which could be explained by the independent variables (Model) and the variance which was not explained by the independent variables (Error). The study established that there existed a significant goodness of fit of the model \( Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \). Based on the findings, in Table 4.14 the results indicate the \( F_{\text{Cal}} = 10.362 > F_{\text{Cri}} = 2.146 \) at confidence level 95% and sig is 0.001<0.05. This implies that there was a goodness of fit of the model fitted for this study: \( Y = 3.118 + 0.541X_1 + 0.638X_2 + 0.501X_3 + 0.442X_4 + \varepsilon \)

Table 12: ANOVA

<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>20.420</td>
<td>4</td>
<td>5.105</td>
<td>10.362</td>
<td>.001(^a)</td>
</tr>
<tr>
<td>Residual</td>
<td>43.818</td>
<td>67</td>
<td>.654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>63.238</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Resource Allocation, Information Technology, Government Policy and Organization Structure Implementation of E-procurement

The established regression equation was;

\[ Y = 3.118 + 0.541X_1 + 0.638X_2 + 0.501X_3 + 0.442X_4 + \varepsilon \]
From regression results in Table 13, the 3.118 represented the constant which predicted value of implementation of e-procurement when all influences of resource allocation were constant at zero (0). The implication is that when resource allocation is constant, implementation of e-procurement at Siaya County Government would be at 3.118. The study found that resource allocation has significance positive influence on implementation of e-procurement system indicated by $\beta_1=0.541$, $p=0.000<0.05$, $t=11.365$. The implication is that a unit increase in resource allocation would lead to a significant increase in implementation of e-procurement system by $\beta_1=0.541$. From coefficient results the study found that information technology has a significance positive influence on implementation of e-procurement system as indicated by $\beta_2=0.638$, $p=0.001<0.05$, $t=10.589$. The implication was that a unit increase in information technology would results into increase in implementation of e-procurement system by $\beta_2=0.638$.

From the regression coefficient findings, the study revealed that government policy would have a significant positive influence on implementation of e-procurement system indicated by $\beta_3=0.501$, $p=0.0013<0.05$, $t=9.701$. The implication is that an increase in government policy would lead to an increase in implementation of e-procurement system. The findings concurred with Monczka et al (2005) noted that strategic resource allocation has greater role to play in achieving implementation of e-procurement performance indicators more effectively for competitiveness of procuring organization.

The regression findings further indicated that there existed a significant positive relationship influence of organization structure and implementation of e-procurement as indicated by $\beta_4=0.442$, $p=0.038>0.05$, $t=10.638$. This implied that an increase in efficiency in organization structure would lead to an increase in implementation of e-procurement. The findings agreed with Forker and Hershauer (2010) who observed that suggests that resource allocation practices improve supplier and e-procurement and customer satisfaction.

**Table 13: Coefficient Analysis**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>3.118</td>
<td>.782</td>
</tr>
<tr>
<td>Resource Allocation</td>
<td>.541</td>
<td>.302</td>
</tr>
<tr>
<td>Information Technology</td>
<td>.638</td>
<td>.361</td>
</tr>
<tr>
<td>Government Policy</td>
<td>.501</td>
<td>.136</td>
</tr>
<tr>
<td>Organization Structure</td>
<td>.442</td>
<td>.697</td>
</tr>
</tbody>
</table>

Predictors: (Constant), Supplier Training, Financial Support, Supplier Participation and Communication Procurement performance

**Conclusions**

The study concluded that despite inadequate resource allocation had a negative effect on effective implementation of E-procurement systems in Siaya County Government. The study established that information technology has led to optimization of processes thus the study concludes that use of technology had a positive impact on the implementation of e-procurement.
system in Siaya County Government. The study established that e-procurement policy has simplified the implementation of e-procurement system in Siaya county government. The study concludes that government policies had a positive impact on implementation of e-procurement system in County government. The study concluded that the county government has established specific goals for employees as shown in the organization structure the e-procurement initiatives and communicates e-procurement needs to all stakeholders. The study concluded that a well-organized e-procurement system contributes to good governance by increasing confidence, Transparency, efficiency, competition and reduce the cost of doing business that public funds are well spent (Hui et al, 2011). The study showed that increased use of e-procurement can enhance the accountability and transparency in the county governments.

Recommendations of the study
The findings of this study contributes to new knowledge in that it has been able to investigate the relationship between resource allocation, Information technology, government policy, and organization structure with implementation of e-procurement. The study recommended that there should be adaptation of the appropriate information and Communications Technologies (ICT) necessary for successful implementation of e-procurement strategy. The study recommends that county government should establish e-procurement teams with IT expertise which should constantly improve their knowledge and skills through regular training. The study recommends the use of E-procurement solutions, the Internet technology platforms and services that make corporate purchasing activities more efficient and cost effective. The study recommended that e-procurement policy should be simplified so that the implementation of e-procurement system in Siaya county government faster. The study recommends that government policies had a positive impact on implementation e-procurement system in County government. Therefore the structure should be designed in such a way to encourage the willing participation of members of the organization and other stakeholders. And lastly the study recommended that e-procurement policy should be formulated to enhance county government use of E-procurement.

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REFERENCES


