



ROLE OF E-PROCUREMENT ON SERVICE DELIVERY IN STATE CORPORATIONS IN KENYA

Nyongesa, E., & Moronge, M.

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Nyongesa, E.,^{1*} & Moronge, M.²

^{1*} Msc. Candidate, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

² Ph.D, Lecturer, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

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ABSTRACT

The aim of the study was to examine how E-procurement influence delivery in state corporations in Kenya. The study was guided by the following research objectives; to establish the influence of E-tendering, E-sourcing, E-ordering, E-invoicing on service delivery in state corporations. The study employed descriptive research design with sample population of 127 State Corporations in Kenya and using simple random sampling technique. A pilot study was conducted on 10% of the sample size state corporations in order to verify the questionnaire and fine tune the questions. The study used primary data which was collected using a comprehensive questionnaire. Quantitative data collected was analyzed by the use of descriptive statistics using SPSS (version 23) as the tool of choice and presented through diverse measures that include percentages, means, standard deviations and frequencies. Multiple regression analysis was used to establish the relation among the variables and as per the model summary, the coefficient of determination (R^2) was used to measure how far the regression model's ability to explain the variation of the independent variables. Regression analysis of the study showed that E-tendering, E-sourcing, E-ordering and E-invoicing played a significant role on service delivery in the state corporations in Kenya. The study recommended that there is need to enhance E-Ordering to enhance electronic preparation of specification to facilitate error reduction in the specifications for the goods to be procured. The study established that full benefits of e-sourcing had not been realized although the current efforts showed a significant effect on procurement efficiency. The study recommended for the E-ordering especially for electronic preparation of purchase order to enhance error reduction to foster accuracy in the orders prepared. The study recommended that there is need to enhance electronic invoicing from the suppliers to allow error reduction in the invoices thus enhancing accuracy of invoice details. The study also recommended that electronic approval of invoices would allow management to understand the status of the tendering process leading to enhanced transparency.

Key Words: E-tendering, E-sourcing, E-ordering, E-invoicing, Service Delivery

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INTRODUCTION

E-Procurement refers to the use of Internet-based (integrated) information and communication technologies (ICTs) to carry out individual or all stages of the procurement process including search, sourcing, negotiation, ordering, receipt, and post-purchase review (Amin, 2012). While there are various forms of e-Procurement that concentrate on one or many stages of the procurement process such as e-Tendering, e-Marketplace, e-Auction/Reverse Auction, and e-Catalogue/Purchasing, e-Procurement can be viewed more broadly as an end-to-end solution that integrates and streamlines many procurement processes throughout the organization (Basheka, Oluca & Mugurusi, 2012).

Kenya, recognized as a developing-economy, e-government leader, has committed \$900million for electronic services in the last six months alone, but officials say more education is needed to foster acceptance of the new e-tools for public services. A United Nations' 2014 survey identified Kenya and Morocco as e-government leaders in Africa, in terms of the number of citizens engaged in using e-services, though the report cited Tunisia and Mauritius as offering the most developed electronic services for citizens on the continent. South Korea, Australia and Singapore are the global leaders in e-government development, the report said, (UN, 2014).

In Kenya, e-procurement is at however at infancy stage. However, the country is revamping public procurement by instituting a number of reforms aimed at enhancing efficiency in the procurement process. Major reforms include the introduction of e-procurement processes. According to Mauti (2013) Kenya has adopted e-procurement with the following e-procurement practices: online advertisement of tenders, receiving online submission of proposals for the tenders and short listing suppliers online.

State Corporations in Kenya are formed by the government to meet both commercial and social goals. They exist for various reasons including: to

correct market failures, to exploit social and political objectives, provide education, health, redistribute income or develop marginal areas. In 2013, the Presidential Task Force on Parastatal Reforms (PTFPR) published a list of all state-owned enterprises (SOEs) and recommended proposals to reduce the number of State Corporations from 262 to 187 in order to eliminate redundant functions between parastatals, close or dispose of non-performing organizations, consolidate functions wherever possible, and reduce the workforce. However, progress is slow.

According to Guidelines on State Corporations from the Office of the President (2010), state corporations in Kenya being classified into eight broad functional categories based on mandate and core functions. The eight categories are Financial; Commercial; Regulatory; Public Universities; Training and Research; Service; Regional Development Authorities; and, Tertiary Education (Kamotho, 2014). A Commercial state corporation is a statutory entity created by the government to conduct commercial activities on behalf of the government. It is also referred to as a parastatal or state business because it is the part of the economy that is entirely controlled by the government for the purpose of providing essential government services

However State corporations in Kenya have gone under a lot of reforms through government task forces and seasonal papers to make them more efficient, effective in the performance of their mandate and to reduce the financial burden of the corporations on the public coffers. Regulatory State corporations are the major culprits on this as they heavily rely on support of the government for their survival. Their main source of revenue is the levy of license fees and other regulatory charges (Kamotho, 2014).

Statement of the Problem

State Corporations in Kenya have been experiencing a myriad of service delivery related challenges especially procurement related matters including corruption, nepotism and mismanagement (R.o.K,

2017). The public investment committee reports out of 130 reports examined by the Auditor General, only 23 Corporations managed a clean bill of health (Kamotho, 2014). The general story is one of loss, fraud, theft and gross mismanagement which are hampering improved and sustained performance and service delivery

A number of studies have been carried out on E-procurement and public procurement. Barngetyuny and Kimutai (2015) study examined the effects of e-procurement on supply chain management performance in Elgeyo-Marakwet County. The study findings indicated that E-tendering, E-invoicing and E-payment affected supply chain management performance in Elgeyo-Marakwet County. Kamaru and Were (2018) study sought to establish effect of e-procurement adoption on the performance of the public sector; a case of state corporations under the State Department for Infrastructure. The study concluded that E-Sourcing had a positive effect on the performance of state corporations under the State Department for Infrastructure. Abdi (2012) conducted a study electronic procurement and organizational performance among commercial state corporations. The findings indicated that commercial state corporations in Kenya have adopted e-procurement but there are several functions they still perform manually. Kamotho (2014) did a study on the e-procurement and procurement performance among state corporations in Kenya. The findings indicated that e-procurement enhanced accountability, bidding, lead time, and internal processes affected procurement process in government ministries in Kenya.

The above studies did not focus on e-procurement and service delivery in the state corporations in Kenya and the challenges of implementing e procurement. Informed by this knowledge gap, this was majorly aimed to answer these questions: In what ways does E-sourcing influence service delivery in state corporations in Kenya? To what extent does E-tendering influence service delivery in state corporations in Kenya? Does E-Ordering influence service delivery in state corporations in

Kenya? To what extent does E-Invoicing influence service delivery in state corporations in Kenya?

Objectives of the Study

The purpose of the study was to establish the influence of E-procurement on service delivery in state corporations in Kenya. The specific objectives were;

- To establish the influence of E-sourcing on service delivery in state corporations in Kenya.
- To determine influence of E-tendering on service delivery in state corporations in Kenya.
- To examine influence of E-Ordering on service delivery in state corporations in Kenya
- To find out influence of E-Invoicing on service delivery in state corporations in Kenya.

LITERATURE REVIEW

Diffusion of Innovations Theory

The Diffusion of innovations theory was proposed by Rogers in 1962; referred to in Einstein (2008). According to Rogers, Diffusion of Innovations theory is a theory of how, why, and at what rate new ideas and technology spread through cultures, operating at the individual and firm level. Based on Diffusion of Innovations theory at the firm level (Einstein, 2008), innovativeness is related to such independent variables as individual (leader) characteristics, internal organizational structural characteristics, and external characteristics of the organization.

Individual characteristics describe the leader attitude toward change. Internal characteristics of organizational structure include observations according to Rogers, centralization is the degree to which power and control in a system are concentrated in the hands of a relatively few individuals; complexity is the degree to which an organization's members possess a relatively high level of knowledge and expertise; formalization is the degree to which an organization emphasizes its members' following rules and procedures; interconnectedness is the degree to which the units in a social system are linked by interpersonal

networks; organizational slack is the degree to which uncommitted resources are available to an organization; size is the number of employees of the organization". External characteristics of organizational refer to system openness.

Dynamic Capability Theory

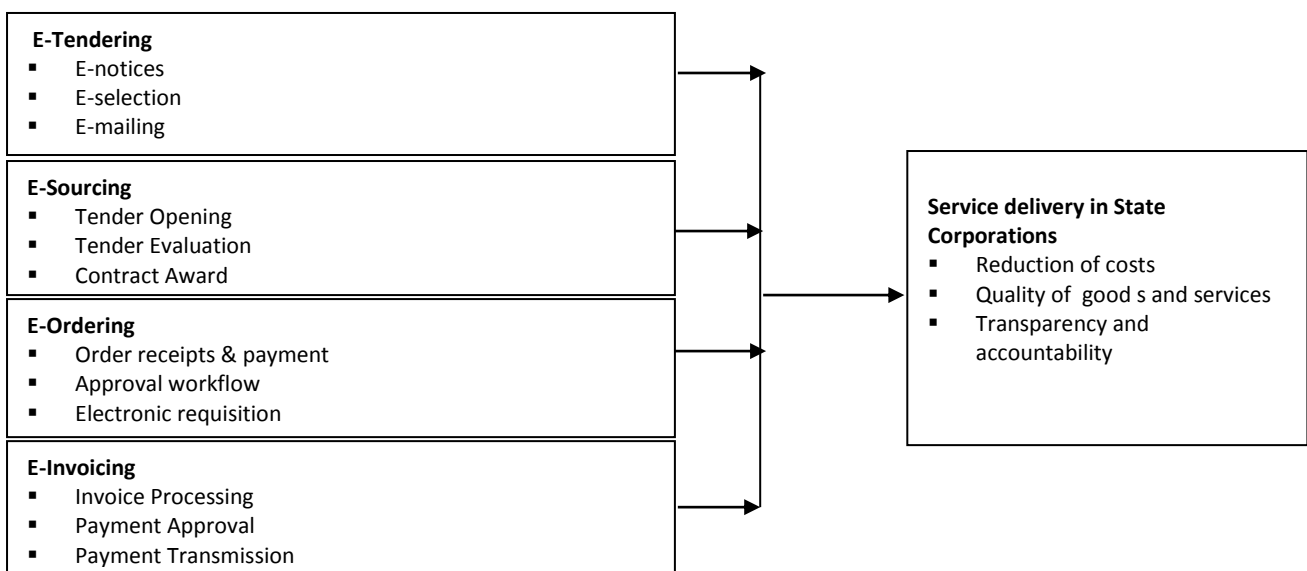
The aspect of dynamic capability was first coined by David Teece, Gary Pisano and Amy Shuen (Chien & Tsai, 2012). The theory describes an organization's ability to deliberately organize its resources in an effort to improve performance. According to Chien and Tsai (2012), dynamic capability is the capability of an organization to purposefully adapt an organization's resource base. An organization should be able to react adequately and timely to external changes. This requires the adoption of different strategies that will harness multiple capabilities of the organization and put them into use.

This will give the company the ability to integrate, develop, and leverage on the environmental competitive advantage. Indeed, the current business world is very dynamic. Changes ranging from organizational structures, culture, marketing and customer's tastes and preferences are taking a

different path. As such, organizations should have the ability to respond to these changes in the most effective manner. The dynamic capability theory asserts that only those organizations able to achieve this will actually be able to break even in this competitive world (Chien & Tsai, 2012)

Resource Based View Theory

The Resource Based View (RBV) theory was developed by Barney and Wernerfelt in 1980s in their analysis of heterogeneous firms which introduced the idea of resource position barriers being roughly analogous to entry barriers (Lynch et al., 2000). It asserts that the resources of an organization are key to ensuring that it performs well. These resources are what determines if an organization has an added advantage over the rest. As a result, exploiting surrounding opportunities using available resources in a new way is more efficient rather than acquiring new skills for each different opportunity. According to the RBV theory, resources can be classified into organizational capital resources, physical capital resources and human capital resources. Allocating them efficiently helps an organization to achieve greater performance (Lynch et al., 2000).



Independent Variables

Dependent Variable

Figure 1: Conceptual Framework

Empirical Review

Chegugu and Yusuf (2017) investigated the effect of e-procurement practices on organizational performance. Specifically, the study sought to find out the effects of e-tendering on organizational performance of hospitals within the county government of Uasin Gishu County. The study employed a descriptive survey of 5 hospitals. The sample size was 367 respondents. Questionnaires were the main types of data collection tools. The data collected was then coded and entered into the Statistical Package for Social Sciences (SPSS) Version 22. The study used both quantitative and qualitative data. Data was then presented in tables of frequencies and percentages. On e-tendering, the study found that there is increased competitiveness in the tendering bid for the hospital; On e-tendering, the study found that the adoption of e-tendering is able to indicate charges from purchasers to suppliers.

Kamotho (2014) investigated the E-Procurement and procurement performance among state corporations in Kenya. Findings of the study revealed that E-Tendering and E-Invoicing has greatly enhanced procurement performance. As a result, the following has been realized: reduction of errors in order transmission, reductions in inventory, assured supply and reduction of production stoppages, reduced work content in the total 'requisition to payment' process, transaction cost reduction, reduction in the time taken to complete the procurement process, ensuring stronger vendor-buyer relationship, improved procurement resource utilization, ensuring better contracts and delivery of best-value contracted goods and service.

Gathimo and Njoroge (2018) examined the effect of e-tendering on the performance of County Government of Nairobi. The study was guided by innovation diffusion theory and transaction cost theory. It utilized the descriptive research design and explanatory design. The target population comprised 750 respondents drawn from the finance, payment and information technology

department. The study sample comprised 75 respondents selected from the three departments using stratified random sampling technique. The data was collected through the administration of the questionnaires to the selected sample. The correlation analysis results indicated that at 95% confidence interval, E-tendering practices had positive and significant relationship with the performance in Nairobi City County Government. The study recommended that the Nairobi City County pay a lot of attention in adopting and implementing various aspects of e-tendering to ensure that its activities remain improved

Kamaru and Were (2018) study sought to establish effect of e-procurement adoption on the performance of the public sector; a case of state corporations under the State Department for Infrastructure. The study used Transaction Cost theory that facilitates coordination of costs and transaction. Information Systems Success theory that proposes that system quality and information quality affect users' usage and satisfaction. The study used a descriptive research design and explanatory research design. The population of interest was 142 employees in the procurement departments at State Department for Infrastructure. Stratified random sampling technique was used since the population of interest was not homogeneous. The study concluded that E-Sourcing had a positive effect on the performance of state corporations under the State Department for Infrastructure.

Kimutai and Ismael (2016) sought to establish the role of strategic e-sourcing practices on supply chain performance in state corporations and thereby determine the value addition in the value chain. The study was a cross-sectional survey and an analysis of purchasing activities in state corporations at given period. The target population in this study included staff in top level management, supply chain, ICT, Finance and customer service at Kenya Generating Co. Ltd drawn from the one hundred and eighty seven (187) state corporations.

Stratified random sampling was adopted for commercial and non-commercial State Corporation based on government shareholding in various ministries within Nairobi County. Data collection was both quantitative and qualitative; questionnaires, unstructured interviews and observation were used to collect data. Further analysis using linear regression model was used to establish the relationship between the independent and dependent variables. The study found that Organization cost reduction is important in customer service, return on investment and total cost while organization cost reduction is slightly important in impacting return on investment and speed of delivery.

Ochari and Kwasira (2016) sought to assess the role of electronic procurement on performance of procurement function in the County Government of Nakuru. This study therefore was meant to assess the e-sourcing practices at the county Government of Nakuru and how they affect the performance of the procurement function. Descriptive research design was used. The study target population comprised of all the 168 staff of procurement function of the County Government of Nakuru from which a sample of 118 was selected using the simple random sampling technique. The study used questionnaires in the collection of primary data. The resulting quantitative data was summarized using descriptive statistics such as mean, mode, standard deviations, frequencies and percentages. Chi-square analysis was then done to assess the association between e-sourcing and procurement efficiency. The study realized that the concept of e-sourcing has been adopted in the procurement function of the County Government of Nakuru. However it has not been fully implemented thus the full benefits thus the full benefits of e-sourcing have not been realized

Oteki (2019) examined the influence of electronic procurement practices on supply chain performance of sugar processing firms in Kenya guided by specific objective, to establish the influence of electronic order processing practice on

supply chain performance. Mixed research design was applied and the target population comprised of 12 sugar processing firms in Kenya with a target population of 7,584. Stratified random sampling was applied to come up with a sample size of 367. Data was gathered by a self-administered drop and pick questionnaire, interviews and observation. The results revealed that there was significant relationship between electronic order processing practice and supply chain performance. The study concludes that electronic order processing practice enhances supply chain performance.

Chepkwony and Lagat (2016) sought to determine the effect of E-ordering and E-informing on supply chain performance. The study was informed Innovation Diffusion Theory. Explanatory research design was employed in this study. Targeted population was 244 procurement officers from 112 Kenyan Retail outlets. Multiple regression mode findings showed that e-ordering and e-informing had a positive and significant effect on supply chain performance. The study concludes that e-ordering and e-informing which are elements of e-procurement dimensions increases supply chain performance.

Munyao and Moronge (2018) sought to establish the influence of e-procurement practices on the performance of procurement in public universities in Kenya. A census research design was adopted in this study. The target population in this study was 31 public universities chartered by the Commission on University Education (CUE) as at July 2017. Statistical package for social science (version 20) was used to facilitate data analysis. It was established that e-tendering positively and significantly affect procurement performance while e-payment has a positive but not significant effect on procurement performance.

Chepkwony and Lagat (2016) investigated influence of technology (Electronic Data Interchange and Electronic Invoicing) adoption and implementation on buyer-seller relationships in the business-to-business market. The methodology applied in the

study was qualitative. The research comprised the study of three case companies that operated in different fields, such as textile production and marketing, machinery and power plant building, and airlines. Based on the results of this study, the implementation of electronic invoicing affects the various aspects of the business-to-business relationship with different strength.

Poel, Marneffe and Vanlaer (2016) argued that governments around the world identify the advancement of electronic invoicing in businesses as crucial for tackling administrative burdens. In their study which examined the potential cost savings of e-invoicing in Belgium, showed that the total cost of invoicing for Belgian private sector businesses in 2014 amounted to €3.47 billion (0.96% of GDP) and could be reduced to €1.46 billion (0.38% of GDP) if all invoices were sent digitally. Furthermore, an analysis of both barriers and enablers of e-invoicing revealed significant concerns that remain regarding the safety of e-invoicing, although a majority of private sector businesses clearly identifies the potential efficiency gains.

METHODOLOGY

The researcher used a descriptive and cross-sectional research designs to determine the role of E-procurement on service delivery in the state corporations in Kenya. The population of the study was state corporations in Kenya. The study used the questionnaire as the research instrument. The study utilized a quantitative questionnaire that was developed for generating information on key variables of interest from the targeted respondents. The questionnaires were self-administered and distributed to the respondents and reasonable time given before they could be collected. Statistical package for Social Science Software version 22

software was used to run different statistical tests from data sets from the closed and open-ended questionnaires. Quantitative data analysis was done by use of descriptive statistics which generated measures of central tendency, that is, frequencies, percentages, means and standard deviation.

RESULTS

E-Tendering

The study investigated the role of E-tendering on service delivery in the state corporations in Kenya. This section presented findings to statements posed in this regard with responses given on a five-point Likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). Table 1 presented the findings. The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' were taken to represent a statement equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' were taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

A majority of respondents were found to agree with the statement posed that suppliers post bids electronically (Mean=4.325, std=.010). There was agreement that electronic advertisement of tender to the public has led to reduction in the cost of advertisement (Mean= 3.876; Std=.432). The respondents agreed that tender specifications and documents sent online (Mean= 3.887; std= .246). Further, the respondents agreed that the tender responses received electronically (Mean= 4.216; std= .349). The respondents agreed that public issued with tender notices electronically (Mean=4.084; std= .043). The study results implied that E-tendering played a significant role on service delivery in state corporations in Kenya.

Table 1: E-Tendering and Service Delivery in State Corporation

E-Tendering	Mean	Std. Dev
Suppliers post bids electronically	4.325	.089
Tender specifications and documents sent online.	3.876	.432
Tender responses received electronically	3.887	.246
Electronic submissions of bid documents by tenderers have reduced manual document handling activities	4.237	.223
Public issued with tender notices electronically	4.216	.349

E-Sourcing

The study sought to assess the role of E-sourcing on service delivery of state corporations in Kenya. This section presented findings to statements posed in this regard with responses given on a five-point Likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). Table 2 presented the findings. The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' were taken to represent a statement equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' were taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

A majority of respondents were found to agree that electronic sourcing has gained control over tendering process (Mean= 3.876, std=.345). Electronic tender evaluation improves audit path for compliance purposes (Mean= 4.231; Std=.721). Electronic sourcing has supported collaboration and also stakeholders to work easily (Mean= 4.329; Std=.543). Electronic signing of contract allows easy tracking of agreements. (Mean= 3.998; Std= .316). Electronic tender evaluation allows speed in the evaluation process thus increased time saving (Mean= 4.654; std= .387). The study results implied that E-sourcing played a significant role on service delivery in the state corporations in Kenya.

Table 2: Influence of E-Sourcing on Service Delivery of State Corporation

E-Sourcing	Mean	Std. Dev
Electronic sourcing has gained control over tendering process	3.876	.345
Electronic sourcing has supported collaboration and also stakeholders to work easily	4.329	.543
Electronic signing of contract allows easy tracking of agreements	3.998	.521
Electronic tender evaluation allows speed in the evaluation process thus increased time saving	4.654	.387
Electronic signing of contract allows easy tracking of agreements	4.009	.548

E-Ordering

The study sought to find out the role of E-ordering on service delivery in state corporations in Kenya. This section presented findings to statements posed in this regard with responses given on a five-point Likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). Table 3 presented the findings. The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has

been taken to represent a statement equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' were taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

A majority of respondents were found to agree with the statement posed in regard to the role of E-ordering on service delivery of state corporations in Kenya. The study established that electronic preparation of purchase order has led to enhanced error reduction (Mean= 3.987, std=.087); Electronic

approval of purchase order had increased audit trail (Mean= 4.234; Std=.654). Electronic transmission of purchase order to the supplier minimizes manual paper trail (Mean= 4.321; Std= .238). Electronic acceptance of the purchase order by the supplier allows faster information exchange (Mean= 4.654; std= .878). Electronic transmission of purchase order to the supplier allows faster delivery of goods thus increased order fulfillment (Mean= 4.523; Std= .436). The study results implied that E-ordering influence performance of state corporations in Kenya.

The study results were in agreement with literature by McConnell (2009) who stated that E-Ordering is the use of Internet to facilitate operational purchasing process, including requisitioning, order

processing, order approval, the transmission and acceptance of this by suppliers. Early E-Procurement technology solutions focused on this aspect of E-Procurement as this was perceived as the area where maximum efficiencies could be achieved (McConnell, 2009). The main advantage of using E-Ordering is that if the supplier is able to receive the purchase order information electronically, they may be able to upload it directly into their order management system. This has the benefit of both avoiding re-keying data by sales operations staff, as well as minimizing any chance for errors in the order. Thus, by keeping the ordering information electronic from start to finish; the process is quicker, reduces errors and provides a clear governance and audit trail.

Table 3: Influence of E-Ordering on Performance of State Corporation

E-Ordering	Mean	Std. Dev
Electronic preparation of purchase order has led to enhanced error reduction	4.325	.010
Electronic approval of purchase order has increased audit trail	3.876	.432
Electronic transmission of purchase order to the supplier minimizes manual paper trail	3.887	.246
Electronic acceptance of the purchase order by the supplier allows faster information exchange	4.237	.223
Electronic transmission of purchase order to the supplier allows faster delivery of goods thus increased order fulfillment.	4.216	.349

E-Invoicing

The study sought to examine the role of E-Invoicing on service delivery in the state corporations in Kenya. This section presented findings to statements posed in this regard with responses given on a five-point Likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree). Table 4 presented the findings. The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' were taken to represent a statement equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' were taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

A majority of respondents were found to agree with the statement posed in regard to the influence of E-Invoicing on performance of state corporations in Kenya. The study established that electronic invoicing from the suppliers allows error reduction. (Mean= 4.326, std=.654); Electronic processing enhances accuracy of invoice details (Mean= 4.145; Std=.378). Electronic approval of invoices enhances tendering process (Mean= 4.325; Std= .234; Electronic invoicing enhances accountability and transparency in the organization (Mean= 4.889; Std= .325). Electronic transmission of payment to the supplier allows speedy remission of funds (Mean= 3.648; Std= .589). The study results implied that E-Invoicing played a role on service delivery of state corporations in Kenya.

Table 4: Influence of E-Invoicing on Service Delivery in State Corporation

E-Invoicing	Mean	Std. Dev
Electronic invoicing from the suppliers allows error reduction	4.326	.654
Electronic processing enhances accuracy of invoice details	4.145	.378
Electronic approval of invoices enhances tendering process	4.325	.234
Electronic invoicing enhances accountability and transparency in the organization	4.899	.325
Electronic transmission of payment to the supplier allows speedy remission of funds	3.648	.589

Service Delivery in State Corporation

The study sought to investigate the extent to which state corporation performed in terms of cost reduction, timely delivery of services, transparency and accountability. Respondents were asked to indicate the extent to which the E-procurement determined the service delivery. The results were presented in Table 5. The first indicator for the dependent variable required to know what the organizations level service delivery was compliance with procurement regulations was, 4% of the respondents had 0-20%, 3% had 21-30%, 13% had 31-40%, 63% had 41-50%, 12% had 41-50%. The modal class is of the respondents who had 41-50% compliance. The mode was found to be 4 which imply that on average the organizations level of compliance with procurement regulations is 41-50%.

The next indicator required the respondents to state the level of minimization of procurement expenditure in the organization, 5% of the respondents had 0-20%, 7% had 20-30%, 12% had 31-40%, 20% had 41-50%, 51% had over 50%. The

modal class is of the respondents who had over 50%. The median was found to be 5 which imply that on average firm's levels of minimization of procurement expenditure was by over 50%.

When the respondents were asked what the level of transparency and accountability of procurement funds was, 3% of the respondents 0-20%, 6% had 21-30%, 8% had 31-40%, 23% had 41-50%, 55% had over 50%. The modal class is of the respondents who had over 50% transparency. The mode was found to be 5 which imply that on average the level of transparency and accountability of procurement funds in organizations is over 50%.

Finally, the respondents were asked what the level of quality of procured goods and services offered was, 5% of the respondents 0-20%, 8% had 21-30%, 11% had 31-40%, 37% had 41-50%, 35% had over 50%. The modal class is of the respondents who had between 41-50% quality level. The mode was found to be 4 which implied that on average the level of quality of procured goods and services offered is between 40-50%.

Table 5: Service Delivery in State Corporations

Statement	0%-20%	21%-30%	31%-40%	41%-50%	Over 50%	Mode
What is the level of compliance with procurement regulations?	4	3	13	63	12	4
What is the level of minimization of procurement expenditure?	5	7	12	20	51	5
What is the level of transparency and accountability of procurement funds	3	6	8	23	55	5
What is the level of quality of procured goods and services offered?	5	8	11	37	35	4

Multiple Regression Analysis

It was notable that there exists a strong positive relationship between the independent variables and dependent variable as shown by R value (0.888). The study findings implied that the four independent variables jointly accounted for 78.80% of the service delivery in State Corporation as

represented by the R^2 . This therefore meant that other factors not studied in this research contribute 21.20% to the service delivery state corporation in Kenya. This implied that these variables were very significant therefore needed to be considered in any effort to enhance service delivery state corporation in Kenya.

Table 6: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.888	.788	.757	.012

ANOVA Results

The F-critical (4, 82) was 27.825 while the F-calculated was 27.825 as shown in Table 7. This showed that F-calculated was greater than the F-critical and hence there is a linear relationship between the independent variables and the

dependent variable. In addition, the p-value was 0.000, which was less than the significance level (0.05). Therefore, the model can be considered to be a good fit for the data and hence it is appropriate in predicting the influence of the four independent variables on the dependent variable (service delivery in state corporations).

Table 7: ANOVA

Model	Sum of Squares	d.f	Mean Square	F	Sig.
1 Regression	56.876	4	14.219	27.825	.000
Residual	41.889	82	.511		
Total	98.765	86			

NB: F-critical Value = 12.768;

Regression Coefficients

Further, the study ran the procedure of obtaining the regression coefficients, and the results were as shown on the Table 8. The coefficients or beta weights for each variable allows the researcher to

compare the relative importance of each independent variable. In this study the unstandardized coefficients and standardized coefficients are given for the multiple regression equations. However discussions are based on the unstandardized coefficients.

Table 8: Regression Coefficient Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	P-value.
	B	Std. Error	B		
1 (Constant)	6.887	5.213		4.770	.000
E-tendering	0.876	0.129	.496	5.108	.000
E-Sourcing	0.832	0.108	.589	7.305	.000
E-ordering	0.754	0.111	.543	6.054	.000
E-invoicing	0.678	0.124	.453	5.371	.000

The Multiple regression model equation would be ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$) becomes: $Y = 6.887 + 0.876X_1 + 0.832X_2 + 0.754X_3 + 0.678X_4$. This indicated that Service Delivery = 6.887+ 0.876 (E-tendering) + 0.832 (E-sourcing) + 0.754 (E-Ordering)

+ 0.678 (E-Invoicing). According to the regression equation established, taking all factors into account (E-tendering, E-Sourcing, E-ordering, E-Invoicing) constant at zero, service delivery was 6.887.

Findings showed that E-tendering had coefficients

of estimate which was significant basing on $\beta_1 = 0.876$ (p-value = 0.000 which is less than $\alpha = 0.05$). Also, the influence of E-tendering is more than the effect attributed to the error, this is indicated by the t-test value = $3.080 > 1.96$, thus we conclude that there is a significant and positive relationship between E-tendering and service delivery in the state corporations in Kenya.

In addition, the findings showed that E-sourcing had coefficients of estimate which was significant basing on $\beta_2 = 0.832$ (p-value = 0.000 which is less than $\alpha = 0.05$). Also, the influence of E-sourcing is more than the effect attributed to the error, this is indicated by the t-test value = $7.305 > 1.96$, thus we conclude that there is a significant and positive relationship between E-sourcing and E-tendering and service delivery in the state corporations in Kenya.

Further, the study results showed that E-ordering had coefficients of estimate which was significant basing on $\beta_3 = 0.672$ (p-value = 0.000 which is less than $\alpha = 0.05$). Also, the influence of E-sourcing is more than the effect attributed to the error, this is indicated by the t-test value = $6.054 > 1.96$, thus we conclude that there is a significant and positive relationship between E-ordering and E-tendering and service delivery in the state corporations in Kenya.

The findings indicated that E-invoicing had coefficients of estimate which was significant basing on $\beta_4 = 0.678$ (p-value = 0.000 which is less than $\alpha = 0.05$). Also, the influence of E-invoicing is more than the effect attributed to the error, this is indicated by the t-test value = $0.666 > 1.96$, thus we conclude that there is a significant and positive relationship between E-invoicing and E-tendering and service delivery in the state corporations in Kenya

CONCLUSIONS

From the regression analysis, the study showed that E-tendering played a significant role on service delivery in the state corporations in Kenya. The study concluded that E-tendering influence service delivery in state corporations in Kenya. This implied that increasing levels E-tendering would increase

the service delivery in the state corporations in Kenya. This showed that E-tendering has a strong positive influence on service delivery in the state corporations in Kenya.

In addition, from the regression analysis of the study showed that E-sourcing played a significant role on service delivery in the state corporations in Kenya. The study concludes that E-sourcing influence service delivery in state corporations in Kenya. This implied that increasing levels E-tendering would increase the service delivery in the state corporations in Kenya. This shows that E-sourcing has a strong positive influence on service delivery in the state corporations in Kenya.

Further, from the regression analysis of the study showed that E-ordering played a significant role on service delivery in the state corporations in Kenya. The study concludes that E-ordering influence service delivery in state corporations in Kenya. This implies that increasing levels E-ordering would increase the service delivery in the state corporations in Kenya. This shows that E-ordering has a strong positive influence on service delivery in the state corporations in Kenya..

Finally, the regression analysis of the study indicated that E-invoicing played a significant role on service delivery in the state corporations in Kenya. The study concludes that E-tendering influence service delivery in state corporations in Kenya. This implies that increasing levels E-invoicing would increase the service delivery in the state corporations in Kenya. This shows that E-invoicing has a strong positive influence on service delivery in the state corporations in Kenya..

RECOMMENDATIONS

The study recommended that there is need to enhance E-Ordering to enhance electronic preparation of specification to facilitate error reduction in the specifications for the goods to be procured. E-ordering also enhances electronic advertisement of tender and transmission of bid documents to tenderers for filling can reduce the

bureaucracy in the bid evaluation process to enhance time savings.

The study established that full benefits of e-sourcing have not been realized although the current efforts have shown a significant effect on procurement efficiency. State corporations in the in the country should take up the role of ensuring full implementation of e-sourcing tools which allows for easy identification and engagement with suppliers as well as customers owing to the benefits they present in efficiency.

The study recommended for the E-ordering especially for electronic preparation of purchase order to enhance error reduction to foster accuracy in the orders prepared. The electronic approval of purchase can help the supplier minimizes manual paper trail thus reduction in the stationery expenses. This will facilitate the faster information exchange thus good buyer/supplier relationship. Electronic transmission of purchase order to the supplier allows faster delivery of goods.

The study recommended that there is need to enhance electronic invoicing from the suppliers to allow error reduction in the invoices thus enhancing accuracy of invoice details. The study also

recommends that electronic approval of invoices will allow management to understand the status of the tendering process leading to enhanced transparency.

Areas for Further Research

This study focused on the E-procurement on service delivery in state corporations in Kenya. Having been limited to state corporations, the findings of this study cannot be generalized to other public institutions. This is because state corporations, government ministries and other parastatals have different structures and have different E-procurement needs. The study therefore suggested further studies to investigate whether E-procurement influences performance in other public institutions in Kenya. In addition, this study focused on only four aspects E-procurement namely; E-tendering, E-sourcing, E-Ordering and E-Invoicing. This study therefore suggested other studies to focus on other aspects of ICT and how they influence inventory management performance should be conducted. This was because ethical practices are a component of public procurement policy framework, but was not covered in this study.

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