ENTERPRISE RESOURCE PLANNING SYSTEMS ON PERFORMANCE OF STATE CORPORATIONS IN KENYA

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Abstract

Purpose: The main objective of this study was to determine influence enterprise resource planning systems on performance of State Corporations in Kenya

Materials and methods; The study adopted the descriptive research design all the procedures selected by a researcher for studying a particular set of questions or hypothesis and also a framework for the collection and analysis of data that is suited to the research question. The primary data of the study was collected by the use of questionnaire The questionnaire covered the demographic information and the information pertaining to variables of the study Data collection was the process of gathering and measuring information on variables of interest in an established systematic fashion that enabled the researcher to answer stated research questions, test hypotheses and evaluate outcomes. The pilot testing was carried out to help find out if the questions were able to measure what they were supposed to measure, appropriateness and practicality, the clarity of the wording and whether the respondents interpreted the questions in the same way. The data was analyzed by descriptive statistics that is (frequencies and percentages) and inferential statistics. The statistical package for social sciences (SPSS) computer software version 22 facilitated the quantitative data analysis and presentation of the findings. descriptive statistics includes statistical procedures that were to describe the population of the study. The descriptive statistics was used to describe the basis features of the data in the study.

Results: the study concluded that Enterprise Resource Planning Systems support the effort for achieving efficiency gains, while promotes core principles of the laws and regulations on public procurement such as transparency, security, availability, non-discrimination and equality of treatment

Recommendations: The study recommends Enterprise Resource Planning Systems that enables interdepartmental sharing of message, exchange in batch and can be easily transmitted and stored. Therefore, Enterprise Resource Planning Systems should be mostly used for order transmission, order confirmation, logistic information and order invoicing.

Keywords: ERP Systems, System Integration, Electronic Data Interchange, Decision Support Systems

1.0 INTRODUCTION

1.1 Background of the study

The study sought to establish the influence of e-procurement on performance of state corporations in Kenya. The chapter provides information on global, regional perspective and narrows down to the local issues that the study addressed. It highlights on the background information, statement of the problem, general and specific objectives, research questions, justification of the study and the scope of the study. The procurement management information system (PMIS) is a smart system which collects stores and synthesizes the procurement related information all over the government procurement. The data management system is centrally integrated for the procurement activities (Mary, 2017). The Procurement management information system uses centrally updated data warehouse to track, record and verify the procurement history and current capabilities of the contracting parties, contractors, suppliers and consultants. During bidding, evaluation and contract execution procurement management information system serves as a necessary source of transformation of authentic information and bridges between the bidders and procuring authority (Baily, 2012).

The public procurement systems in Kenya has evolved from a crude system with no regulations to a legally regulated procurement system in line with international standards. The ministry of finance developed an integrated financial management information system (IFMIS) re-engineering framework aiming to improve systems for management and reporting of financial data and electronic procurement information for the government of Kenya (Jerome & Muehle, 2014). Lysons (2012) defines e-procurement as use of the internet to operate the transactional aspect of requisitioning, authorizing, ordering, receiving and payment processes for the required services or products. The automation of purchase orders and invoices electronically reduces the need for manual paperwork and the team members handling paperwork is freed to work on other tasks (Irene, 2014). Kakwezi & Sonny (2012) asserted that e-procurement value chain consists of indent management, e-informing, e-tendering, e-auctioning, vendor management, catalogue management, purchase order integration, order status, ship notice, e-invoicing, e-payment and contract management. According to Daniel (2014) procurement information systems by facilitating quotes and order transactions, helps manufacturers and suppliers speed up new product introduction to boost product revenue and enhance customer satisfaction; while at the same time cutting direct material costs to improve profits. According to Lysons (2012) Performance Of State Corporations refers to the quantitative or qualitative assessment over a given time towards the achievement of corporate or operational goals and objectives relating to the purchasing economies, efficiency and effectiveness. Based on the numerous challenges still facing adoption of e-procurement, the study seeks to assess the influence of e-procurement on the performance of state corporations in Kenya.

1.1.1 Global perspective on E-procurement

The Government linked corporations play a substantial role in Singapore's domestic economy. The Government linked corporations (GLC) are partially or fully owned by a state owned investment company, New Zealand commonly refer to their state owned enterprises (SOE) or as crown entities. The local government councils and similar authorities also set up locally controlled enterprises, such as water supply companies and local authority trading enterprises as separate corporations or as business units of the councils concerned. The Procurement information systems applications are based upon open public standards that are designed to enable B2B (business to business) integration between government entities and its suppliers to reduce transaction and handling costs and to enable automated timely information exchange (Roy & Sinha, 2014). In China the high-speed development of information technology, internet, integration of electronic

procurement and electronic bidding tools have developed significantly over the past few years. The Chinese government had introduced policies to encourage the introduction of e-sourcing in the procurement bidding process. In recent years, the Chinese leading e-commerce enterprises also developed their own enterprise internet procurement platform to serve large state-owned, private and even some foreign companies. This has resulted in the healthy development of the public procurement market in China. The country has successfully set up a national internet architecture spanning across provinces (Chen, 2017).

1.1.2 Regional perspective on E-procurement

Lindsey (2015) observed that many African countries are adopting e-procurement. The standard for publishing documents, structuring, linking and data related to planning, procurement and implementation of public contracting assists stakeholders achieve value for money in procurement, detect fraud and corruption, gain market intelligence and monitor service delivery. The standard provides ready made approach to sharing data effectively, allowing the publisher to focus on content, completeness and quality lowering costs of production and integrating data. The government of Tanzania owns a number of commercial enterprises in the country through the treasury registrar. It wholly owns the corporations unless indicated otherwise, e-procurement has proven itself to be one of the more effective and efficient tools for bringing good governance to the procurement process. Sunday (2016) noted that Nigeria took a step to modernize its public procurement system by disseminating the federal e-procurement. Nigeria seeks to derive higher values in the use of public resources, public procurement expenditure as a percentage of gross domestic product (GDP) is estimated to be in the range of 10% to 25%.

The South African national treasury has taken the first steps towards transforming the South African public procurement system from a traditional paper based to an electronic system. The electronic public procurement system is the way forward for public procurement, considering the advantages it can achieve, namely to reduce both costs and opportunities for corruption (National Treasury South Africa, 2016). The state corporations governance moves beyond traditional, paper based procurement, many countries in Africa are adopting e-procurement. The systems endevours to improve country governments ability to generate data and analyse performance in capital budget spending in real time. The world bank is providing financial and technical support for e-procurement initiatives in several African countries including Botswana, Rwanda, Mauritius, Ghana, Nigeria, Cameroon, Madagascar, Kenya, Uganda, Zambia and Zimbabwe (Lindsey & Quarrel, 2015). The government of Kenya has implemented electronic systems in ministries, counties, state departments and various state owned institutions. The e-procurement have been a common theme of many organizations for the promotion of transparency and good governance in procurement for many developed and developing nations (Orina, 2013).

1.1.3 E-procurement   in Kenya

The government of Kenya has implemented electronic systems in ministries, counties, state departments and various state owned institutions. The e-procurement   have been a common theme of many organizations for the promotion of transparency and good governance in procurement for many developed and developing nations (Orina, 2013). The procurement management information system systems have proven themselves within various government organizations as effective tool for instituting procurement reforms and establishing a fully transparent and open procurement environment (Kirungu, 2011). Carlo (2010) found that e-procurement processes are an integral part of an optimized end to end supply chain, which benefits the customers, user departments and suppliers tendering supports the process of procuring works, services and supplies

electronically. The public procurement procedures foreseen by the law are supported for both one off or repetitive purchases through several dedicated sub modules. These provide facilities for user registration, competition notification, tender preparation and submission, online tender evaluation, upholding of auctions, contract awarding, contract management, creation and management of catalogues, placement of electronic orders (Dehbini & Birjandi, 2015). Many organizations, including state and local governments, use enterprise resource planning (ERP) systems to integrate their activities across their organizational structure. Drive high levels of adoption through policy, training and outreach (Ignazio, 2010). Visibility into an organization is spend enables it to consolidate purchases, eliminate unnecessary spending, and work with suppliers to innovate. Focus on leveraging the metrics readily available in these systems to monitor compliance, monitor participation, evaluate success of procurement practices, assess supplier participation including disadvantaged suppliers analysis and category spend analysis (Geoffrey, 2015). Kakwezi & Sonny (2012) emphasized that e-procurement technology and other advanced technologies essentially are freeing procurement professionals to become true supply managers at these enterprises and the role of procurement is shifting from reducing costs to creating supply value for the company. Kaur & Pathak (2015) stressed that e-procurement not only reduces the cost of transactions, it also improves process efficiency and can reduce administrative and other costs. The higher productivity enterprises that implement e-procurement report that procurement, accounting and other corporate functions are more productive now than with traditional buying methods. The e-procurement provide a standardized approach to rolling out efficient processes to not only procurement but also all departments involved in transaction processing and financial record-keeping (Mary, 2017).

1.1.4 The State Corporations in Kenya

The parastatals are a legal entity created by a government to undertake commercial activities on its behalf. This is referred to as a public sector or state corporation that is that part of the economy that is controlled by the government for providing basic government services (Orina, 2013). The government owned corporation, state owned company, state owned entity, state enterprise, publicly owned corporation, government business enterprise and commercial government agency and state corporations is a legal entity created by a government to undertake commercial activities on behalf of an owner government (R.o.K, 2010).

The state corporations organizations in Kenya use procurement information systems for contracts to achieve benefits such as increased efficiency and cost savings faster and cheaper in government procurement (Senyo, 2013). The key milestone in the reformation of public procurement has been the amendment of the public procurement and Asset Disposal Act, 2015 that enhanced the use of e-procurement for efficient use of procurement systems in the public service (PPDA 2015). The aggressive reforms implemented by the Kenyan government are attributed to the realization by the government of the need to improve internal procurement policies and procedures. The Kenyan government leaders must take a firm stance on changing long standing culture and championing new and innovative ways to increase efficiency (Shale, 2013).

Kenya has more than one hundred and thirty eight (138) state corporations categorized according to their mandate for the purpose of the study focused on all the listed state corporations (Appendix III). The Act of parliament state corporations Act Cap 446, exists to make provision for the establishment of state corporations for control and regulation of the procurement information systems functions is the item master responsible for standardizing the use of items within all government ministries (The state corporations e-News Kenya, 2013). Kenya has been investing in information technology as part of the on-going reforms in the state corporations leading to the decline in the costs in some key services (World Bank, 2013). Neef (2007) indicates

that the more organizations can integrate e-procurement processes and systems directly into their supply chain, the greater the cost savings and product improvements.

1.2 Statement of the Problem

Over the years, state corporations and government entities have relied on manual tendering process, selection of suppliers and requisitioning. Despite the eminent adoption of e-procurement by state corporations they are still presented with accountability and transparency challenges (Orina, 2013). The challenges facing the adoption of procurement information systems include auditability risks, lack of top management support, poor system of integration and resistance to change by staff, poor communication mechanisms, poor procurement information systems implementation strategy and low information communication technology (ICT) implementation levels (Ignazio, 2010). According to Amayi (2011) 69% of state law office (SLO) relies on old records in selecting their suppliers, while only 31% search through internet catalogue in selecting suppliers.

According to the report of Presidential taskforce on parastatal reforms, (2013) states that the output of state corporations to GDP has been increasing from 9.54% in 2008/2009 to 11.64% in 2010/2011, based on internally generated income. In 2011/12, eleven (11) commercial state corporations made losses, compared to twelve (12) in 2010/11 and sixteen (16) in 2009/10. This represents 21%, 23% and 31% respectively of all commercial oriented Government owned entities. The poor governance lead to resource loss, burdening the public purse, multitude of legal and institutional frameworks that generate multiple reporting and accountability lines, compounding the challenge of effectiveness of boards and chief executive officers. There is inadequate performance management framework that effectively link performance of state corporations to national development goals fails to link individual performance to institutional performance. This raises questions on the state of performance on procurement system in state corporations. The situation is due to losses, fraud, theft and gross mismanagement, which are hampering improved and sustained Performance Of State Corporations and service delivery (PPDA, 2015). The study seeks to establish the influence of e-procurement on performance of state corporations in Kenya.

1.3 Objectives of the Study

The main objective of this study was to determine influence of enterprise resource planning systems on performance of State Corporations in Kenya

1.3.1 General Objective of the Study

1.3.2 Specific Objectives

The study was guided by the following specific objectives:

  i.   To determine how System Integration affects performance of State Corporations in Kenya

 ii.   To assess how Electronic Data Interchange influence performance of State Corporations in Kenya

iii.   To evaluate how Decision Support Systems affects performance of State Corporations in Kenya

2.1 Introduction

The purpose of literature review was to identify what is already known. This chapter reviewed the various theories that exist on effects of e-procurement system. It specifically covers the empirical studies, conceptual framework critique of the literature reviewed and the study gaps.

2.2 Theoretical Review

Theoretical frameworks are explanations about the phenomenon and provide the researcher with the lens to view the world. Theory is a set of statements or principles devised to explain a group of facts or phenomena that has been tested and widely accepted and used to make predictions about natural phenomena (Halvorson, 2012). Theories are analytical tools for understanding, explaining and making predictions about a given subject matter (Creswell, 2013). A formal theory is syntactic in nature and is only meaningful when given a semantic component by applying it to some context, that is facts and relationships' of the actual historical world as it is unfolding (Shields & Nandhini, 2013). This study therefore is grounded on three theories as discussed in the following section.

2.2.1 Enterprise Resource Planning Systems

According to Garrido (2011) noted that enterprise 21 enterprise resource planning (ERP) is a management system for small and mid market manufacturing and distribution organizations. Designed as a fully integrated, end to end enterprise resource planning management systems application, Enterprise 21 enterprise resource planning delivers the comprehensive enterprise level software functionality required to facilitate industry best practices while serving as the backbone to manage the enterprise's complete business operations (Geoffrey, 2015).
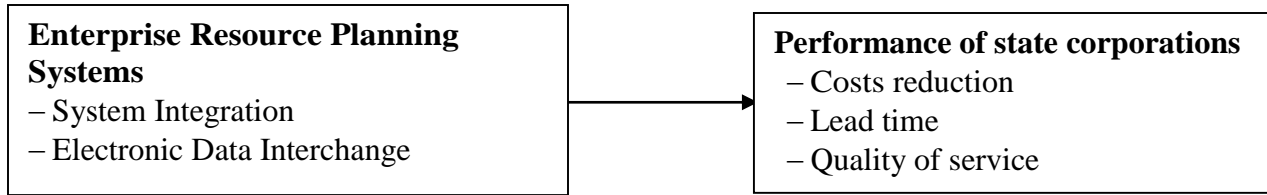
2.2.2 Performance Of State Corporations

According to Slozko (2015) designing procurement measures and a procurement measurement system is crucial for conversion of individual business units into fully operational supply chain. This has led to the focus of supply chain measures and overall performance. Stefano *et al*., (2010) suggested that the initial step in tackling issues that involve procurement measurement system and implementation is designing supply chain strategies. The processes are integrated by developing information communication technology systems. Christopher (2015) opined that Performance Of State Corporations measures require continuous monitoring, organization performance and achievement of set out strategies and goals can be effectively driven and measured through key performance indicators (KPI). The balanced scorecard is essential as a communication tool, for adding procurement value, engagement and maturity (Trkman, 2010). Implementing e-procurement system benefits all levels of an organisation. E- procurement systems offer improved spend visibility and control and help finance officers match purchases with purchase orders, receipts and job tickets (Chin & Ahmad, 2015). The procurement information system also manages tenders through a web site. This can be accessed anywhere globally and has greatly improved the accessibility of tenders (Irene, 2014).

2.2.3 Enterprise Resource Planning Systems and Performance Of State Corporations

Sriram & Stump (2004) reckoned that enterprise resource planning (ERP) systems are essential for supporting internal information sharing. Externally, inter organizational information systems constituting automated information systems shared by various firms can be used to support information sharing with customers and suppliers. Information communication and technology (ICT) contributes to improved communications

patterns, increased demand for coordination of joint activities and new organizational structures through its ability to store transmit and process information and speed up inter organizational activities.

2.3 Conceptual Framework

Enterprise Resource Planning Systems – System Integration – Electronic Data Interchange	→	Performance of state corporations – Costs reduction – Lead time – Quality of service

3.0 METHODOLOGY

The study adopted the descriptive research design all the procedures selected by a researcher for studying a particular set of questions or hypothesis and also a framework for the collection and analysis of data that is suited to the research question. The primary data of the study was collected by the use of questionnaire The questionnaire covered the demographic information and the information pertaining to variables of the study Data collection was the process of gathering and measuring information on variables of interest in an established systematic fashion that enabled the researcher to answer stated research questions, test hypotheses and evaluate outcomes. The pilot testing was carried out to help find out if the questions were able to measure what they were supposed to measure, appropriateness and practicality, the clarity of the wording and whether the respondents interpreted the questions in the same way. The data was analyzed by descriptive statistics that is (frequencies and percentages) and inferential statistics. The statistical package for social sciences (SPSS) computer software version 22 facilitated the quantitative data analysis and presentation of the findings. Descriptive statistics was used to describe the basis features of the data in the study.

RESEARCH FINDINGS ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter discusses the analysis, interpretation and presentation of the findings. The study sought to investigate the influence of e-procurement and performance of state corporations in Kenya. The study was expected to produce both quantitative and qualitative data analyzed using descriptive techniques such as means, standard deviation and frequencies. The inferential statistics, correlation and regression analysis was done to establish the relationship between variables. The data was presented in figures, tables for ease of analysis and interpretations of findings.

4.2 Response Rate

Orotho (2012) defines response rate as the extent to which data sets include all sample members and calculated as the number of respondents with whom questionnaires are completed and divided by total number of respondents in the entire sample including non-respondents. As indicated in Table 4.1, the findings indicated that out of the 103 respondents on the sample population, 78 responded and returned the questionnaires for analysis. This constituted to 76% of the response rate. The commendable response rate was possible after the researcher made personal calls and visits to remind the respondent to fill in and return the questionnaires. Mugenda and Mugenda (2012) indicated that a response rate of 50%, 60% or 70% of the response rate is sufficient for a study.

Table 4.1: Response Rate

Category	Frequency	Percentage
Questionnaires Distributed	103	100
Questionnaires Completed	78	76
Uncompleted Questionnaires	25	24

4.3 Reliability and Validity Results

Table 4.2 illustrates the findings of the study concerning the reliability analysis. In the study, a reliability test was through pilot testing on the sample of 10 respondents. This represented 10% of the sample as recommended by (Mugenda, 2012). These were however not included in the study. The 10 respondents selected were mainly from the procurement officers in the State corporations of 138. From the findings, the coefficient was 0.77350 as shown in table 4.2; the coefficient was higher than 0.70 threshold, showing that the instruments were reliable. Validity shows the degree to which a test measures what it purports to measure. The language used on the questionnaire was simple to avoid any ambiguity and misunderstanding. The validity of the instrument was calculated by expert input.

Table 4.2: Reliability and Validity Results

Variable	Cronbach's	No of Item
E- tendering	.78499	5
E-contract	.80063	5
E-sourcing	.72593	5
ERP systems	.76390	5
Overall	**.77350**	

4.4 Descriptive Analysis

The descriptive statistics is a set of brief descriptive coefficients that summarizes a given data set, which can either be a representation of the entire population or a sample. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion (Creswell & Clark, 2011). The descriptive statistics is used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

4.4.4 ERP Systems

System Integration

The respondents were asked the extent to which the organization has realized business values on enterprise resource planning ERP system. The systems as a result of system integration influencing supply chain information systems on performance of state corporations in Kenya. The findings in the Table 4.3 below indicates that respondents to a moderate extent agreed that Enterprise Resource Planning Systems enables the organisation to automatically calculate average item material cost which was supported by a mean of 4.08 and standard deviation of 1.10. The results again indicated that organisation use Enterprise Resource Planning Systems to determine between numerous vendors and deciding on which suppliers to use through the available

integrated information on performance with a mean of 4.19 and standard deviation of 1.00. The respondent to a great extent agreed that the use of integration in the organisation foster buyer-seller relationship through timely sharing of information with mean of 3.96 and standard deviation of 0.88. The observation of the study indicates that respondents contributed that the systems integrations in organisations allow sales and operational plan derived from the overall business plan fostering customer service while maximizing on sale which was supported by mean of 4.17 and standard deviation of 0.85. The respondents agreed that the systems allow sales forecast figures for the various products and operational plan derived from sales plan supported by mean of 3.86 and standard deviation of 0.84. The finding of this study implied that the system integrations between the states corporation enabled collaboration and formation of alliances with the supplier hence creating long-term relationships. The finding of the study agree with those of Geoné, (2016) that the exchange and storage of information in a manner which guarantees the integrity and confidentiality of the data.

Table 4.3: System Integration

Statements	Min	Max	Mean	SD
The Enterprise Resource Planning Systems in the organisation automatically calculate average material cost.	1.00	4.00	4.08	1.10
The ERP enable the organisation to determine the system integration points push and pull.	1.00	4.00	4.15	0.85
The organisation use Enterprise Resource Planning Systems to determine between numerous vendors and deciding on which suppliers to use.	1.00	4.00	4.19	1.00
The master production schedule MPS has element of flexibility many factors decide this production lead-time.	1.00	4.00	4.10	1.15
The use of integration in the organisation fosters buyer-seller relationship.	1.00	4.00	3.96	0.88
Thesystems in organisations allow sales and operational plan derived from the overall business plan.	1.00	4.00	4.17	0.85
The systems allow sales forecast figures for the various products and operational plan is derived from sales plan.	1.00	4.00	3.86	0.84

Electronic Data Interchange

The respondents were required to indicate the extent to which Electronic Data Interchange affects the supply chain information systems on performance of state corporations in Kenya. The mean and standard deviation were calculated for ease of comparison and generalization of findings. The finding is shown in Table 4.9 the respondents largely agreed that EDI enable the organisation improve trade efficiency, which allows faster, simpler, broader and less costly transactions with a mean of 4.24 and standard deviation of 1.13. The study further provided that organization using JIT and EDI calculates how many parts are needed each day based which enable the procurement to avoid overstocking which was supported by mean score of 3.83 and standard deviation of 0.90. The findings indicated that organisations use electronic data interchange (EDI) to manage supply chain management processes that leads to effective operation with mean of 4.38 and standard deviation of 0.95. The studies established that the organization anticipate the consequences of the decision they make for better management of the supply chain operation with a mean of 4.24 and standard deviation of 0.94 from the finding of this study this implied that EDI enabled organisation alignment to other supply chain information systems enabling faster transfer of information electronically. The finding of this study is in line with that of Madenas & Woodward (2014) the use of this tool drastically lightens the management burden.

Many tasks, such as printing out business documents, enveloping, franking or registering in the ERP, disappear completely.

Table 4.4: Electronic Data Interchange EDI

Statements	Min	Max	Mean	StD
The EDI enable organisation improves trade efficiency, which allows faster, simpler, broader and less costly transactions.	2.00	5.00	4.24	1.13
The EDI systems improves customer service through track and trace programs.	1.00	4.00	4.33	1.00
The organizations using JIT and EDI calculates how many parts are needed each day.	2.00	4.00	3.83	0.90
The systems in the organisation electronically transmit orders and delivery.	1.00	5.00	3.83	0.93
The EDI systems improved on responsive or it costs too much in money and time.	1.00	5.00	3.85	0.95
The organisations use electronic data interchange (EDI) to manage supply chain management processes.	2.00	5.00	4.38	0.95
The organization use decision support system in critical areas.	3.00	5.00	4.18	1.11
The organizations anticipate/analyse the consequences of the decision the make.	2.00	5.00	4.24	0.94

4.4.5 Performance Of State Corporations

The study sought to establish the extent to which indicators of the level of performance experienced by state corporations in Kenya. The performance were analysed in the last five years in terms of costs reduction (Ksh) lead time (days) and total number of customer complains that is related to e-tendering, e-contract, e-sourcing and Enterprise Resource Planning Systems on the dependent variable Performance Of State Corporations of state corporations in Kenya. The period of study financial year 2013 /2014 was taken as the base year. The implementation of procurement information systems was found to contribute to Performance Of State Corporations of state corporations as costs reduction level increase attributed to implementation of procurement information systems from 0.5 million in the financial year 2013/2014 to 3.6 million in the financial year 2017/2018. The findings in table 4.10 the performance in cost reduction level was on upward trends as the cost reduces in the process of the implementation of the e-procurement. The implications of the right competitive process were followed during the award of the contract.

The lead time (days) in the financial year 2013/2014 was beyond acceptable limits of 11 days instead of 1-2 days, with the application of the e-procurement. The lead time by the end of F/Y2017/2018 was clear indication that they were closely monitored by the systems against the provided key performance indicators as per requirements by the contracting user departments. The results indicated that the total number of customer complains in the financial year 2013/2014 the states corporation experience customer service challenges, in terms of quality deliveries, place of delivery, product specifications and factory defects up to 30. The application of the Enterprise Resource Planning Systems integrating the supplier systems with those of States Corporation changed to 2 in the financial year 2017/2018.

Table 4.5: Performance of State Corporations

Indicators	Performance levels				
Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Costs reduction (ksh)	0.5 M	0.6 M	1.1M	2.M	3.6M
Lead time (days)	11 Days	8 Days	7 Days	5 Days	1 Days
Total number of customer complains	30	21	13	8	2

4.5 Inferential Analysis

The inferential statistics infer from the sample to the population. They determine probability of characteristics of population based on the characteristics of the sample. The inferential statistics helps in assessing strength of the relationship between the independent variables and the dependent variables.

4.6 Regression Analysis

Regression model summary result in Table 4.12 indicated that there existed a significant variation $R^2 = 0.558$, $P = 0.001 < 0.05$ in dependent variable which would be attributed to changes in independent variable. The R square 0.558 indicated that 55.8 % change in Performance Of State Corporations attributed to change in System Integration, Electronic Data Interchange, Decision Support Systems. This implied that change in System Integration, Electronic Data Interchange, Decision Support Systems would result into significant change in Performance Of State Corporations of state corporations in Kenya.

4.7 Coefficient Analysis

From regression results in Table 4.13, the 2.494 represented the constant, which predicted value of Performance of State Corporations in Kenya, when all influences of enterprise resource planning systems were constant at zero (0). The implication is that when System Integration, Electronic Data Interchange, Decision Support Systems is constant, performance of state corporations in Kenya would be at 2.494. The study found that

System Integration has significance positive influencein Performance of State Corporationss indicated by $\beta_1 = 0.413$, $p = 0.000 < 0.05$, $t = 4.201$. The implication is that a unit increase in System Integration would led to a significant increase in Performance of State Corporations by $\beta_1 = 0.413$. From coefficient results the study found that, Electronic Data Interchange has a significance positive influence on Performance of State Corporations as indicated by $\beta_2 = 0.364$, $p = 0.003 < 0.05$, $t = 2.016$The implication was that a unit increase in Electronic Data Interchange would results into increase in Performance of State Corporations by $\beta2 = 0.364$

From the regression coefficient findings, the study revealed that Decision Support Systems would have a significant positive influence on Performance Of State Corporations in states corporationsas indicated by $\beta_3 = 0.246$, $p = 0.001 < 0.05$, $t = 1.329$. The implication is that an increase in Decision Support Systems would lead to an increase in Performance of State Corporations in Kenya the findings agreed with that of Mary (2017) the ERP electronic communication designed which permit trading partner's customers and suppliers, in two or more organizations, to exchange business transaction data in electronic, structured formats.

Table 4.6: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig.
1	.747a	.558	.540	.447	.001

a. Dependent Variable: Performance of State Corporations
b. Predictors: (Constant), System Integration, Electronic Data Interchange, Decision Support Systems

Table 4.7: Coefficient Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.494	.293		8.509	.000
	System Integration	.413	.098	.691	4.201	.000
	Electronic Data Interchange	.364	.181	.451	2.016	.003
	Decision Support Systems	.246	.185	.370	1.329	.001

4.8 Optimal Model

The established regression equation was:

$Y = 2.494 + 0.413X_1 + 0.364X_2 + 0.246X_3 + e$

Where:

Y= Performance of State Corporations in Kenya.

β_0=Constant of Regression

X_1= System Integration

X_2= Electronic Data Interchange

X_3 = Decision Support Systems

ε = Error of Regression

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Finding

Enterprise Resource Planning Systems

The study established that enterprise resource planning Enterprise Resource Planning Systems is a web-based, collaborative system to facilitate the full lifecycle of a tendering process, for both buyers and suppliers. It offers a secure, interactive, dynamic environment for procurements of any nature, complexity or value and encouraging recognised best practices. The Enterprise Resource Planning Systems support the process of procuring works, services and supplies electronically. All public procurement procedures foreseen by the law are supported for both one-off or repetitive purchases through several dedicated sub-modules providing facilities for user registration, competition notification, tender preparation and submission, online tender evaluation, upholding of auctions, contract awarding, contract management, creation and management of catalogues, placement of electronic orders and much more.

5.2 Conclusion

The study concluded that Enterprise Resource Planning Systems support the effort for achieving efficiency gains, while promotes core principles of the laws and regulations on public procurement such as transparency, security, availability, non-discrimination and equality of treatment. The traditional procurement process starts with phase requirement definition, sourcing, solicitation, evaluation, contracting and contract management. In the internet based this steps are replaced by e-sourcing, e-tendering, e-reverse auction, e-ordering and web based ERP system.

5.3 Recommendations

The study recommends Enterprise Resource Planning Systems that enables interdepartmental sharing of message, exchange in batch and can be easily transmitted and stored. Therefore, Enterprise Resource Planning Systems should be mostly used for order transmission, order confirmation, logistic information and order invoicing. The Enterprise Resource Planning Systems help in the processes of procurement. Some of the common applications are email, internet based electronic data interchange EDI, and XML based data exchange via the internet. Internet provides tools for e-sourcing, e-tendering, e-auctioning, e-ordering and e-catalogue.

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