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Sirengo, M. N., & Ndolo, J.

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INFLUENCE OF ELECTRONIC PROCUREMENT ON OPERATIONAL PERFORMANCE OF COUNTY GOVERNMENT OF KAKAMEGA

Sirengo, M. N.,[1*] & Ndolo, J.[2]

[1*] Masters 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

This study investigated the influence of E-procurement on the operational performance. A Case of County Government of Kakamega. Theories in the study were Innovation Diffusion Theory, Technology Acceptance Theory and Transaction Cost Theory. Descriptive survey design was used. The target population was 125 employees in county government of Kakamega headquarters, where Yamame's formula was used to get a sample size of 95 who were selected using simple random sampling technique. Structured questionnaire were used to collect data from respondents.and data analyzed using statistical packages of social science (SPSS, 24). Descriptive summarized data using frequencies, percentages, means while inferential data analysis was used for variable relationships. Data wa presented in form of tables and graphs. From a total of 95 questionnaires that were dispatched for data collection, 87 questionnaires were returned when completely filled, representing a response rate of 91.6% which is good for generalizability of the research findings to a wider population. Both descriptive and inferential statistics indicated that all independent variables (e-sourcing, e-supplier selection, e-ordering, e-payment) significantly influenced organization operations perforamnce of county government of Kakamega. The study concluded that; e-sourcing significantly influences organization operations performance by saving on costs and time secondly, e-payment significantly influences organization operations performance by reducing fraudulent transactions in the manual payment system. The study recommended that; county governments as public entities should embrace e-sourcing as an effective way of saving costs and time in the procurement process and secondly; county governments should adopt a secure and upgraded e-payment system to reduce fraudulent transactions prompted by the manual payment system.

Key Words: *E- sourcing, E- supplier selection, E- ordering, E-payment, County Government of Kakamega.*

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INTRODUCTION

Procurement is a comprehensive function which involves activities and processes for the purpose of attaining or acquiring products and services. He further states that Procurement activities covers a range of activities from establishing fundamental requirements such as negotiation of contracts to sourcing activities ,market research, supplier evaluation as well as activities required for the purpose of placing an order and receiving goods and services Mahdillou (2014).

Electronic-procurement is Information technology aided buying by organizations. The advantages and efficiency of e-procurement has made organizations and government sectors in many countries to adopt its use along with the introduction and development of electronic data interchange (EDI) and this has been increasingly improving and being adopted since internet and world wide web came into being**.** Group (2005) in his study says that internationally most of the leading world enterprises utilizing e-procurement are improving the expansion of their e-procurement systems. He has further stated that E-procurement technology and other sophisticated technologies in the area of electronic transactions have given procurement managers and professionals the capability of turning into real supply chain managers. Today the role of procurement is shifted from cost reduction to value creation within the supply chain for the organization they further state. It has to be emphasized that the development of information technology, in terms of internet, has resulted in remarkable changes for enterprise supply chain strategies and practices over the last several years. Fraser and Robert (2005), states that e-procurement and its core role in supply chain management has revolutionized business practices and enhanced the flow of information along the supply chain network.

Locally in Kenya ,the function of procurement has always been considered to be very instrumental in the development of the economy. Its importance has been on the increase since the year 2004 and 2014, where it accounted for 9% and 11% of the GDP respectively, according to (Kamotho, 2014: Malela, 2010; PPOA, 2007). Since independence way back in 1963 this area was neglected for long and as such, the government was not realizing value for money amongst its state corporations. There has been therefore need to revamp public procurement in Kenya by instituting a number of reforms aimed at enhancing efficiency in the procurement process. Miheso (2013) states that these major reforms in the procurement system in Kenya started with the establishment of the legal framework within which public procurement could be carried out . Miheso further states that originally, the procurement system was anchored on the supplies manual of 1978, which was supplemented by the Kenyan government circulars that were issued from time to time.

Globally, e-procurement has gained popularity especially with the advent of technology. In United States of America for instance, rapid development of e-procurement is reported in early 2000 just before the recession. By the end of the same year, it was reported that all state functions were maintaining web presence in at least some stage of their procurement processes with some participating in online bidding (Reddick, 2004). In Malaysia, the government at some point issued a statement calling for all suppliers to use the e-procurement system (Yossuf 2011). Kaliannan (2017) pointed out that Malaysian public sector are going through a rapid change especially as far as adoption of technology is concerned. Adoption of e-government and particularly e-procurement is inevitable for the government.

In Kenya, the government actively got involved in adoption of e-procurement when the Jubilee government came into power. Since then there has been a lot of pressure and reforms to ensure all public procurement functions are conducted online. The Kenyan government made it mandatory for

procurement of all public goods, works and services to be procured through online platforms. For County governments in particular, there is a directive for all procurement and finance operations to be conducted online. For instance, the government introduced integrated financial management information system (IFMIS) that is mandatory for all the 47 counties. IFMIS was introduced to improve governance by providing real time financial information and effective programs that formulate budgets. It also enhances transparency and accountability and acts as a deterrent to corruption and fraud (USIAD, 2008).

Statement of the Problem

Electronic-procurement acts as a hub to support business planning and decision making. It results to reduction of repetitive task like transaction processing, monitoring and transparency. It has also eliminated middlemen, overhead cost, improved competition amongst suppliers and eased management reporting. With the implementation of e-procurement solution, there has been automation of buying and selling over the internet which has increased the richness of communication through grater interactivity between the firm and Customers according to (Watson et al., 2008). Despite the advantage an organization derives from e-procurement, majority of the public organization have been reluctant to adopt this change. Studies indicate that more than 50% of procurement processes in state corporations in Kenya are still being carried out manually; with the internet only being used for e-mails and web browsing (Malela, 2010; Miheso, 2013).On the contrary studies by Chang, (2011) did reveal that in the year 2010, over 60% of South Korea's total public procurement (124 billion USD) was conducted through e-procurement system and as a result, procurement performance of state corporations in Korea were greatly improved; thus yielding short procurement cycle-time, higher efficiency in service delivery, lower cost of procurement and enhanced policy compliance. Could it be benefits of e-procurement are relative and that the Kenyan scenario is very unique such that despite the major investments in ICT infrastructure the benefits of E-procurement cannot be realized? Could it be that corruption rewards greatly? In County Government of Kakamega E-procurement has been adopted partially with only payments of supliers being done Electronically while other procurement are being done manually. It is on this inconsistency that the study sought to establish the Influence of E-procurement on the operational performance. A Case of County Government of Kakamega.

Objectives of the Study

The main objective of this study is to establish the influence of E-procurement on the operational performance with more precise emphasis on County government of Kakamega. The specific objectives were:-

- To examine E-sourcing influence on operational performance of County government of Kakamega.
- To determine E –supplier selection influence on operational performance of County government of Kakamega.
- To find out E-ordering influence on operational performance of County government of Kakamega.
- To establish E-payment influence on operational performance of County government of Kakamega County.

Research Hypotheses

$\mathbf{H_{01}}$: There is no significant influence of E-sourcing on operational performance of County government of Kakamega.

$\mathbf{H_{02}}$: There is no significant influence of E –supplier selection on operational performance of County government of Kakamega.

H_{03} : There is no significant influence of E-ordering on operational performance of County government of Kakamega.

H_{04} : There is no significant influence of E-payment on operational performance of County government of Kakamega.

LITERATURE REVIEW

Theoretical Review

Transaction Cost Theory (TCT)

Xinyu and Patricia (2007) defines a transaction as a process by which a good or service is transferred across a technologically separable interface. In classical economic theory, it is assumed that information is symmetric in the market. Since both buyers and sellers are assumed to have the same amount of information, the transaction can be executed without cost. In reality, however, markets are often inefficient. In order to proceed with a transaction, consumers must conduct activities such as searching for information, negotiating terms, and monitoring the on-going process to ensure a favorable deal .It is useful in the context of e-procurement on performance because it helps for a company to be efficient and effective in their performance in terms of value for money .

Innovation Diffusion Theory (IDT)

Additionally, this study will be underpinned by Innovation Diffusion Theory (IDT). This theory discusses in terms of traditional purchasing, e-procurement is an innovative application of information technology by organizations. Therefore, IDT can be applied to explore consumers' e-procurement behavior. The rate of adoption is mainly dependent on five attributes of an innovation: relative advantage (the extent to which an innovation is perceived to be better than the one it substitutes for or competes with), compatibility (the extent to which an innovation is perceived to be consistent with the experiences and requirements of potential adopters), complexity (the extent to which an innovation is perceived to be difficult to use), trialability (the extent to which an innovation can be experimented with on a limited basis) and observability (the extent to which the utility of an innovation is visible to the public). Relative advantage, compatibility, trialability, and observability of an innovation are found to be positively related to its rate of adoption, while complexity is negatively associated with its rate of adoption (Xinyu & Patricia. 2007).This theory is very important in the context of this research especially in procurement function performance. Reason for this is that activities taken by procurement functions need to ensure organizations continue to improve their performance. In Kenyan public procurement functions are aiming to offer services that are good to the public.

Technology Acceptance Theory

This theory argues that Technology acceptance model was introduced by Davis (1986). According to this theory, emerging technologies cannot improve organizational effectiveness and performance if the change has not been accepted by the users (Davis, 1986). The theory of technology acceptance is one of the most popular theories in understanding adoption of computer technologies. Adoption of any innovation or especially information technology based requires investment in computer based tools to support decision making, planning communication. However, these systems may be risky. It is therefore very critical that the systems are specified on organizational preference and logic. It is also necessary to understand that people may resist technological changes. There must be an effort to understand why people resist changes and the possible ways through which such issues can be resolved. Appropriate organizational culture must be inculcated; the change must be adopted in an incremental way accompanied by communication. Everyone involved must be informed on their roles

and empowered to perform the respective roles (Kamel, 2014).

Empirical Literature Review

E-Sourcing

It is the process of identifying new supplier to deliver goods or services in a specified category through electronic means. It is an internet based application which enables a collaborative technology in the full life-cycle of the procurement process between the buyer and supplier. The e-sourcing is one of the best e-purchasing practices that organizations are employing to reduce costs (Kock, 2005). Presently, e-sourcing applications offers two main functions which are; online request for quotations (RFQ), this is a way of identifying the needs, the buyer ask possible suppliers to send their quotation of the product or service which is then evaluated through the application. The second one is online auctions; this is whereby buyers are invited to bid for the contracts being offered. The lowest bidder is usually the one given the contract to supply needed goods or services.

E-Supplier Selection

Supplier pre-qualification is one of the principle pillars of e-supplier selection, which has a direct influence in the decisions taken to affect the operational performance of an organization. The effects of poor supplier selection become apparent as an entity grows because it also comes to rely on outsourcing services for its core activities. (Chan et al, 2007). A number of enhancements in practices of selecting suppliers can bring about a downstream effect in the supply chain. (Scott et al., 2014). This is also because of the increase in the number of suppliers eligible for selection including the international and regional ones due to the market globalization effect through web-based practices of procurement where customer's tastes and preferences keep changing and more transparency is a requirement.

E-Ordering

Yen and Ng (2013) also conducted study on the impacts of e-procurement in the procurement process on the supply chain by analyzing the project of Hong Kong Textile. They used SWOT analysis to describe impacts in each stage of procurement process. Strengths and weaknesses were used as internal performance measurement in the procurement process, for example, efficiency, and effectiveness.

Matunga, Nyanamba and Okibo (2013) assessed the effect of e-procurement on efficient procurement in public hospitals. The objectives of the study were to assess the extent to which e-procurement has improved the quality of goods in public hospitals, to determine the extent to which e-procurement has reduced price charged for goods purchased in public hospitals and to identify the extent to which e-procurement has ensured best value for money in public hospitals procurement. The study established that Kisii Level 5 hospital uses e-tendering, e - quotations and e- sourcing as the main e-procurement applications and that the greatest challenges faced when using e-market provider was inadequate funding, organization's inability to handle change management and lack of training of employees on how to use the system. The study concluded that public hospitals have adopted some of the e-procurement applications regardless of the challenges that accompany the adoption.

E-Payment

Electronic Payment System encompasses the total payment processes, which include all the mechanisms, technological systems, institutions, procedures, rules, laws etc. that come into play from the moment a payment instruction is issued by an end-user. Different kinds of rules, regulations, mechanisms, technology and arrangements have therefore been put in place by trading partners, markets and governments (stakeholders involved in EPS development) in all countries and throughout time to develop effective infrastructure of monetary

exchange, commonly referred to as payments systems (Bossone and Massimo, 2001). Electronic payment system is an online business process used for fund transfer using electronic means like personal computer, mobile phones etc. They are widely used in bank whenever transactions are made in terms of payment and other means. The various modes of e-payment are Debit Card Payment System, Credit Card Payment System, Online Electronic Cash System, Electronic Cheque System and Smart Cards based Electronic Payment System. (Manav, 2014).

Organization Operation Performance

The concept of operational performance refers to the change in which the managers and governing body of an organization put into place and manage a programme which measures the current level of performance of the organization and then generates ideas for modifying organizational behavior and infrastructure which are put into place to achieve higher output. The primary goals of operational performance are to increase organizational effectiveness and efficiency to improve the ability of the organization to deliver goods and /or services. Another area in operational performance that sometimes targets continuous improvement is organizational efficacy, which involves the process of setting organizational goals and objectives in a continuous cycle. Organizational performance at the operational or individual employee level usually involves processes such as statistical quality control. At the organizational level, performance usually involves softer forms of measurement such as customer satisfaction surveys which are used to obtain qualitative information about performance from the viewpoint of customers (Kaplan & Norton, 2001).

E-procurement has the capacity of acting as an integrative technology that enables integration and improvement of processes between departments (Vickery, 2003). Flynn , (2010) further assert that internal integration of organizational processes is a recipe for moderated corporate performance though there is no clear elaboration on how this happens. Narasimhan (2003) concur that there exists a positive effect of e-procurement on firm performance even though no empirical evidence has confirmed this position.

Conceptual Framework

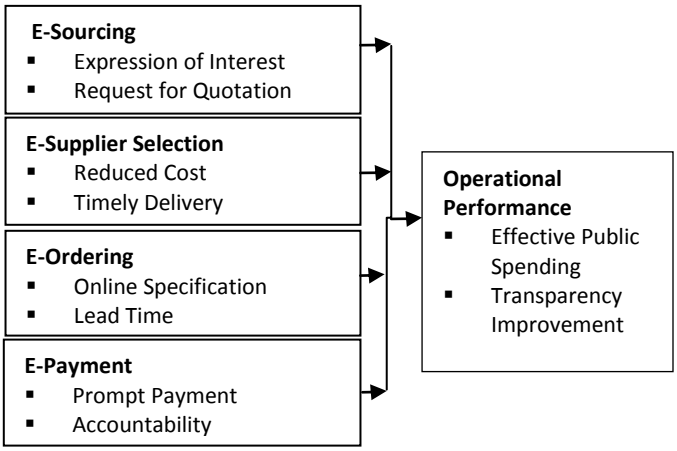

Figure 1: Conceptual Framework

Source: Author (2019)

METHODOLOGY

This study was conducted by use of descriptive design. It is an attempt to collect data from members of the population to determine the current status of that population in relation to one or more variables. It helps to describe population that is too large. The Target Population of this study was the workers of County Government of Kakamega.The target population of the study was 125 senior and middle management staff working in financial, accounting, auditing and procurement related departments in the county government of Kakamega. The sampling frame in this study was derived from senior and middle level management staff in the county government of Kakamega. A structured questionnaire was employed in data collection from the sampled respondents self-administered and structured in a way that facilitates collection of categorical data in relation to study constructs. The data processing and analysis were

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facilitated by the use of the Statistical Package for Social Sciences (SPSS). The data analysis consisted of both descriptive and inferential statistics. On the other hand, inferential statistics constituted of Spearman rank correlation and regression analyses.

$y= \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where

X_1= E-Sourcing

X_2= E-Supplier Selection

X_3= E-Ordering

X_4= E-Payment

Y = Operational perforamnce

α = the constant

$\beta 1, \beta 2, \beta 3, \beta 4$ = Beta coefficients

ε =Error term

The assumptions of multiple regression (normality, linearity and multicollinearity) were taken into consideration**.**

FINDINGS

Descriptive statistics

The descriptive statistics presented in this section were summated responses on the statements measuring the study's independent variables (e-sourcing, e-supplier selection, e-ordering, e-payment) using Likert scale with values ranging from 5 to 1; that is; 5=Strongly Agree, 4=Agree, 3= Undecided, 2=Disagree and 1= Strongly Disagree. The results were presented in the table form showing frequencies of responses as per each statement and its corresponding percentage score in brackets.

Electronic sourcing: Descriptive analysis result

This summarized responses on whether e-sourcing influences operational performance in County government of Kakamega. The results were presented in table 1.

Table 1: E-sourcing: Descriptive analysis result

Statement	5	4	3	2	1	mean	Std.dev
1. e- sourcing saves time in sourcing potential supplies of goods to be stocked.	7(8.0)	48(55.2)	6(6.9)	20(23.0)	6(6.9)	3.54	0.929
2. e -sourcing enables the organization to get information about the goods suppliers have.	6(6.9)	41(47.1)	4(4.6)	25(28.8)	11(12.6)	3.37	0.846
3. e- sourcing facilitates accessing price lists and catalogues from suppliers.	8(9.2)	47(54.1)	9(10.3)	13(14.9)	10(11.5)	3.41	0.889
4.e – sourcing enables the organization to interact with their customers and suppliers online	9(10.3)	46(52.9)	10(11.5)	16(18.4)	6(6.9)	3.47	0.916
5.e – sourcing enables the organization to find out what their customers want.	5(5.7)	43(49.6)	11(12.6)	17(19.5)	11(12.6)	3.46	0.990
6.e-sourcing facilitates comparing of information by organization from different suppliers.	8(9.2)	49(56.4)	5(5.7)	18(20.7)	7(8.0)	3.58	0.854
7.Suppliers submit their quotations online	7(8.0)	44(50.6)	6(6.9)	20(23.0)	10(11.5)	3.49	0.821

Valid listwise 87

Grand mean = 3.47

From table 1, most respondents agreed (55.2%) and strongly agreed (8.0%) that e-sourcing saves time in sourcing potential supplies of goods to be stocked, which is reinforced by 47.1% and 6.9% of respondents who agreed and strongly agreed respectively that e - sourcing enables the organization to get information about the goods suppliers have; this implies that e-sourcing saves time in sourcing potential supplies of goods to be stocked and getting information on supplies. Thus use of e-sourcing is also confirmed by 50.6% and 8.0% of respondents who agreed and strongly agreed respectively that suppliers submit their quotations online, implying that the county government of Kakamega has adopted esoucing.

More so, 54.1% and 9.2% of respondents agreed and strongly agreed respectively that e- sourcing facilitates accessing price lists and catalogues from suppliers while a further 52.9% and 10.3% agreed and strongly agreed respectively that electronic sourcing enables the organization to interact with their customers and suppliers online, implying the electronic sourcing is an effective way of accessing pricelists and making suppliers and customers effectively interacting online. Further, 49.6% and 5.7% of respondents agreed and strongly agreed respectively that electronic sourcing enables the organization to find out what their customers want while 56.4% and 9.2% also agreed that e-sourcing facilitates comparing of information by organization from different suppliers; which then facilitates effective interaction between a wide range of suppliers offering a wide range of products and services to select and make informed decision.

In summary most respondents agreed that e-sourcing influences operational performance in County government of Kakamega. This is affirmed by the grand = 3.47 rounded off to 4 which is agree on the Likert scale of measurement; thus e-sourcing influences organization performance. This is supported by Kock, (2005) assertion that the e-sourcing is one of the best e-purchasing practices that organizations are employing to reduce costs and improve performance.

Electronic supplier selection: Descriptive analysis results

This summarized responses on whether e-supplier selection influences operational performance in County government of Kakamega. The results are presents in table 2.

Table 2: E-supplier selection: Descriptive analysis results

Statement	5	4	3	2	1	mean	Std.dev
1.E supplier selection improves timely delivery of goods and services	7(8.0)	44(50.6)	6(6.9)	20(23.0)	10(11.5)	3.44	0.821
2.E- supplier selection reduces the cost	10(11.5)	49(56.4)	7(8.0)	13(14.9)	8(9.2)	3.47	0.859
3.E- supplier selection is highly adopted	7(8.0)	45(51.8)	8(9.2)	17(19.5)	10(11.5)	3.45	0.903
4.E-supplier selection helps to improve operational performance	9(10.3)	42(48.3)	8(9.2)	18(20.7)	10(11.5)	3.38	0.932
5.E-supplier selection makes work easy in selecting suppliers online other than manual way which is time consuming	10(11.5)	47(54.0)	5(5.7)	19(21.8)	6(6.9)	3.49	0.857

Valid listwise 87

Grand mean = 3.446

From table 2, most respondents agreed (50.6%) and strongly agreed (8.0%) that E supplier selection improves timely delivery of goods and services, implying e-supplier selection identifies genuine

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supplier who can deliver goods and services within agreed time without delay. Secondly, most respondents agreed (56.4%) and strongly agreed (11.5%) that E- supplier selection reduces the cost, thus, implies that e-supplier selection reduces cost associated with paper work in manual selection plus unnecessary corrupt deals during supplier selection; and this is reinforced by 51.% and 8.0% of respondents who agreed and strongly agreed respectively that E- supplier selection is highly adopted by the county government of Kakamega.

Further, most respondents agreed (48.3%) and strongly agreed (10.3%) that E-supplier selection helps to improve organization performance; which is reinforced by 54.0% and 11.5% of respondents who respectively agreed and strongly agreed that E-supplier selection makes work easy in selecting suppliers online other than manual way which is time consuming. This implies that the county government of Kakamega has adopted electronic supplier selection which helps minimize cost, takes short time and thus improves operational performance.

In summary most respondents generally agreed that electronic supplier selection influences operational performance. This is indicated by the grand mean = 3.446 rounded off to 4 which is agree on the Likert scale of measurement. The use of e-supplier selection is supported by Scott et al., (2014) assertion that effects of poor supplier selection become apparent as an entity grows because it also comes to rely on outsourcing services for its core activities; thus, a number of enhancements in practices of selecting suppliers can bring about a downstream effect in the supply chain. This is also because of the increase in the number of suppliers eligible for selection including the international and regional ones due to the market globalization effect through web-based practices of procurement where customer's tastes and preferences keep changing and more transparency is a requirement (Scott et al., 2014).

Electronic Ordering: Descriptive results analysis

This summarized responses on whether e-ordering influences operational performance in County government of Kakamega. The results are presents in table 3.

Table 3: E-Ordering: Descriptive result analysis

Statement	5	4	3	2	1	mean	Std.dev
1.e-requisition and e-receipting has been adopted	11(12.6)	49(56.4)	6(6.9)	13(14.9)	8(9.2)	3.52	0.870
2.e-cataloguing, e-authorization and e-order processing has been adopted	9(10.3)	47(54.2)	9(10.3)	15(17.2)	7(8.0)	3.45	0.937
3.Suppliers submit the specifications through e-ordering	10(11.5)	48(55.3)	5(5.7)	15(17.2)	9(10.3)	3.51	0.805
4.E-odrering reduces the lead time	6(6.9)	41(47.2)	10(11.5)	19(21.8)	11(12.6)	3.41	0.912
5.E-odrering reduces the lead time hence improve operational performance.	5(5.7)	42(48.4)	9(10.3)	20(23.0)	11(12.6)	3.42	0.905

Valid listwise 87

Grand mean = 3.462

From table 3, most respondents agreed (56.4%) and strongly agreed (12.6%) that e-requisition and e-receipting has been adopted; while a further 54.2% and 10.3% agreed and strongly agreed strongly that

e-cataloguing, e-authorization and e-order processing has been adopted. This implies that the county government of Kakamega has adopted e-requisition, e-receipting and e-cataloguing, e-authorization and e-order processing to fast track the county government's operational performance.

More so, most respondents agreed (55.3%) and strongly agreed (11.5%) that suppliers submit the specifications through e-ordering, implying that most suppliers to the county government of Kakamega have embraced electronic ordering to submit their specifications.

Further, most respondents agreed (47.2%) and strongly agreed (6.9%) that E-ordering reduces the lead time; implying that e-ordering reduces wastage caused by high lead time in the manual ordering system which definitely causes high delays in supply of procured goods and services. This is supported by 48.4% and 5.7% of respondents who agreed and strongly agreed respectively that E-ordering reduces the lead time hence improve operational performance.

In summary, most respondents agreed that e-ordering enhances operational performance. That is the grand mean is 3.462 rounded off to 4 which is agree on the Likert scale of measurement. This is supported by Yen and Ng (2013) who conducted study on the impacts of e-procurement in the procurement process on the supply chain by analyzing the project of Hong Kong Textile. They used SWOT analysis to describe impacts in each stage of procurement process. Strengths and weaknesses were used as internal performance measurement in the procurement process, for example, efficiency, and effectiveness. The study suggested implementation of e-ordering on operational performance.

Electronic Payment: Descriptive results analysis

This summarized responses on whether e-payment influences operational performance in County government of Kakamega. The results are presents in table 4.

Table 4: Descriptive statistics: E-Payment

Statement	5	4	3	2	1	mean	Std.dev
1.adoption of e-payment practices is done to a high extent	8(9.2)	41(47.2)	10(11.5)	21(24.1)	7(8.0)	3.43	0.964
2.mobile payments, PC banking and electronic funds transfer have been implemented	7(8.0)	42(48.4)	11(12.6)	19(21.8)	8(9.2)	3.44	0.861
3.E-Payment facilitates prompt Supplier Payment	10(11.5)	50(57.6)	5(5.7)	15(17.2)	7(8.0)	3.47	0.850
4.E-payment helps in accountability	9(10.3)	49(56.4)	4(4.6)	17(19.5)	8(9.2)	3.46	0.985
5.E-payment improves operational performance	11(12.6)	45(51.9)	7(8.0)	15(17.2)	9(10.3)	3.49	0.914

Valid listwise 87

Grand mean = 3.458

From table 4, most respondents agreed (47.2%) and strongly agreed (9.2%) that adoption of e-payment practices is done to a high extent; while 48.4% and 8.0% agreed and strongly agreed respectively that mobile payments, PC banking and electronic funds transfer have been implemented. This implies that

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the county government of Kakamega has adopted e-payments practices to improve its performance.

More so most respondents agreed (57.6%) and strongly agreed (11.5%) respectively that E-Payment facilitates prompt Supplier Payment which is supported by 56.4% and 10.3% of respondents who agreed and strongly agreed respectively that E-payment helps in accountability. This implies that the county government of Kakamega has adopted e-payment for the sake of facilitating prompt supplier payment and improving accountability which then enhances performance.

In summary, most respondents agreed (51.9%) and strongly agreed (12.6%) that E-payment improves operational performance. The grand mean is 3.458 rounded off to 4 which is agree on the Likert scale of measurement. This is supported by Veronica et al ,(2011) who defines an electronic payment as a payment services that utilize ICT, including cryptography and telecommunications networks which includes is classified into cash-like systems (e-cash), check-like systems (credit card and credit-debit based systems), and hybrid systems (stored- value card based systems). Thus, for successful electronic payment implementation, users' awareness must be increased, encouraged to use it, and be assured that the system is secure and comprehensive with a high quality telecommunication infrastructure facilities must also be provided; so as to enhance performance.

Inferential statistics results

Table 5: Correlations

		e-sourcing	e-supplier selection	e-ordering	e-payment	Operational performance
e-sourcing	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	87				
e-supplier selection	Pearson Correlation	.504**	1			
	Sig. (2-tailed)	.000				
	N	87	87			
e-ordering	Pearson Correlation	.500**	.661**	1		
	Sig. (2-tailed)	.000	.000			
	N	87	87	87		
e-payment	Pearson Correlation	.540**	.630**	.633**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	87	87	87	87	
Organization performance	Pearson Correlation	.729**	.785**	.756**	.814**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	87	87	87	87	87

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6:Direct influence of e-sourcing on operational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.729[a]	.531	.526	.82968	.531	96.388	1	85	.000

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	66.350	1	66.350	96.388	.000[b]
	Residual	58.511	85	.688		
	Total	124.861	86			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.202	.232		5.171	.000
	e-sourcing	.721	.073	.729	9.818	.000

a. Dependent Variable: operational performance

Table 7: Direct influence of e-supplier selection on operational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.785[a]	.616	.611	.75134	.616	136.186	1	85	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.878	1	76.878	136.186	.000[b]
	Residual	47.983	85	.565		
	Total	124.861	86			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.751	.234		3.213	.002
	e-supplier selection	.855	.073	.785	11.670	.000

a. Dependent Variable: operational performance

Table 8 : Direct influence of e-ordering on operational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.756[a]	.571	.566	.79402	.571	113.043	1	85	.000

ANOVA[a]

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Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.271	1	71.271	113.043	.000[b]
	Residual	53.590	85	.630		
	Total	124.861	86			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.753	.255		2.950	.004
	e-ordering	.893	.084	.756	10.632	.000

a. Dependent Variable: operational performance

Table 9: Direct influence of e-payment on operational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.814[a]	.663	.659	.70360	.663	167.214	1	85	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.781	1	82.781	167.214	.000[b]
	Residual	42.080	85	.495		
	Total	124.861	86			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.524	.228		2.294	.024
	e-payment	.887	.069	.814	12.931	.000

a. Dependent Variable: operational performance

Table 10 : Multiple regression results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.898[a]	.806	.796	.54386	.806	85.035	4	82	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.

1	Regression	100.607	4	25.152	85.035	.000[b]
	Residual	24.254	82	.296		
	Total	124.861	86			

a. Dependent Variable: operational performance

b. Predictors: (Constant), e-payment, e-sourcing, e-suppliers selection, e-ordering

Above table showed the multiple regression results of the combined effects of the study's independent variables (e-sourcing, e-supplier evaluation, e-ordering, e-payment). The multiple regression results the above table showed the F statistics is significant (F = 85.035; significant at *p<.001*), thus confirming the fitness of the model. An R^2 of 0.806 shows that the study explains 80.6%% of variation in the operational performance of county government of Kakamega, while other factors not in this study model accounts for 19.4%, hence, it is a very good study model.

Further, from the values of unstandardized regression coefficients with standard errors in parenthesis in above table, all the independent variables (e-sourcing; β = 0.380 (0.058) at *p<0.01*; e-supplier selection; β = 0.276 (0.114) at *p<0.05;* e-ordering; β = 0.222 (0.108) at *p<0.05,* e-payment; β = 0.387 (0.107) at *p<0.05,* significantly predicted operational performance of county government of Kakamega (dependent variable).Thus the final multiple regression equation is ;

$$y= 0.391 +0.380X_1+0.276X_2 + 0.222X_3 + 0.387X_4$$

Where;

y= operational performance of county government of Kakamega

X_1= e-sourcing

X_2= e-supplier selection

X_3= e-ordering

X_4= e-payment

Table 11 : Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.391	.059		6.606	.000
	e-sourcing	.380	.058	.385	6.600	.000
	e-supplier selection	.276	.114	.253	2.417	.018
	e-ordering	.222	.108	.188	2.063	.042
	e-payment	.387	.107	.356	3.621	.001

a. Dependent Variable: operational performance

Hypothesis testing

Study **hypothesis one** stated that there is no significant influence of E-sourcing on operational performance of county government of Kakamega. The multiple regression analysis indicates that there exists a positive and significant effect of e-sourcing on operational performance of county government of Kakamega. (β= 0.380 (0.058); *at p<.01*). **Hypothesis one was thus rejected.** This implies that a single improvement in effective e-sourcing will yield 0.380 unit improvement in the operational performance of county government of Kakamega. Study **hypothesis two** stated that there is no significant influence of E-supplier selection on operational performance of county government of Kakamega. The multiple regression analysis indicates that there exists a positive and significant effect of e-supplier selection on operational performance of county government of Kakamega. (β= 0.276 (0.114); *at p<.05*). **Hypothesis**

two was thus rejected. This implies that a single improvement in effective e-supplier selection will yield 0.276 unit improvement in the operational performance of county government of Kakamega. The results are supported by Chan, et al. (2007) assertion that supplier pre-qualification is one of the principle pillars of e-supplier selection, which has a direct influence in the decisions taken to affect the operational performance of an organization. The effects of poor supplier selection become apparent as an entity grows because it also comes to rely on outsourcing services for its core activities.

Study **hypothesis three** stated that there is no significant influence of E-ordering on operational performance of county government of Kakamega. The multiple regression analysis indicates that there exists a positive and significant effect of e-ordering on operational performance of county government of Kakamega. (β= 0.222 (0.108); *at p<.05*). **Hypothesis three was thus rejected.** This implies that a single improvement in effective e-ordering will yield 0.222 unit improvement in the operational performance of county government of Kakamega. Lastly, study **hypothesis four** stated that there is no significant influence of E-payment on operational performance of county government of Kakamega. The multiple regression analysis indicates that there exists a positive and significant effect of e-payment on operational performance of county government of Kakamega. (β= 0.387 (0.107); *at p<.05*). **Hypothesis four was thus rejected.** This implies that a single improvement in effective e-payment will yield 0.387 unit improvement in the operational performance of county government of Kakamega.

SUMMARY

The general objective of the study was to investigate the influence of E-procurement on the operational performance of the county government of Kakamega, Kenya. The study tested a total of four hypotheses; (i) **H_{01}:** There is no significant influence of E-sourcing on operational performance of county government of Kakamega; (ii) **H_{02}:** There is no significant influence of E –supplier selection on operational performance of county government of Kakamega; (iii) **H_{03}:** There is no significant influence of E-ordering on operational performance of county government of Kakamega and (iv) **H_{04}:** There is no significant influence of E-payment on operational performance of county government of Kakamega.

Study **hypothesis one** stated that there is no significant influence of E-sourcing on operational performance of county government of Kakamega. From descriptive analysis, most respondents agreed that e-sourcing influences operational performance in County government of Kakamega. This was affirmed by the grand = 3.47 rounded off to 4 which is agree on the Likert scale of measurement; thus e-sourcing influences operational performance. This is supported by Kock, (2005) assertion that the e-sourcing is one of the best e-purchasing practices that organizations are employing to reduce costs and improve performance.

Further multiple regression results indicate that there exists a positive and significant effect of e-sourcing on operational performance of county government of Kakamega. (β= 0.380 (0.058); *at p<.01*). This implies that a single improvement in effective e-sourcing will yield 0.380 unit improvement in the operational performance of county government of Kakamega.

Study **hypothesis two** stated that there is no significant influence of E-supplier selection on operational performance of county government of Kakamega. From descriptive analysis, most respondents generally agreed that electronic supplier selection influences operational performance. This is indicated by the grand mean = 3.446 rounded off to 4 which is agree on the Likert scale of measurement.

Further multiple regression results indicated that there exists a positive and significant effect of e-supplier selection on operational performance of

county government of Kakamega. (β= 0.276 (0.114); *at p<.05*). This implies that a single improvement in effective e-supplier selection will yield 0.276 unit improvement in the operational performance of county government of Kakamega.

Study **hypothesis three** stated that there is no significant influence of E-ordering on operational performance of county government of Kakamega. From descriptive analysis, most respondents agreed that e-ordering enhances operational performance. That is the grand mean was 3.462 rounded off to 4 which agree on the Likert scale of measurement.

Further multiple regression results indicate that there is no significant influence of E-ordering on operational performance of county government of Kakamega. The multiple regression analysis indicates that there exists a positive and significant effect of e-ordering on operational performance of county government of Kakamega. (β= 0.222 (0.108); *at p<.05*). **Hypothesis three was thus rejected.** This implies that a single improvement in effective e-ordering will yield 0.222 unit improvement in the operational performance of county government of Kakamega.

Lastly, study **hypothesis four** stated that there is no significant influence of E-payment on operational performance of county government of Kakamega. From descriptive analysis, most respondents agreed (51.9%) and strongly agreed (12.6%) that E-payment improves operational performance. The grand mean was 3.458 rounded off to 4 which agree on the Likert scale of measurement.

Further multiple regression results indicate that there exists a positive and significant effect of e-payment on operational performance of county government of Kakamega. (β= 0.387 (0.107); *at p<.05*). **Hypothesis four was thus rejected.** This implies that a single improvement in effective e-payment will yield 0.387 unit improvement in the operational performance of county government of Kakamega. Manav, (2014) also found that e-payment provides effective payment to the company regarding purchasing products or services through the Internet. Thus, the trend of e-commerce is increasing very rapidly in the customers market. The payment process of e-commerce normally provided through electronic payment system. So, the trend of e-payment also increases through various devices of electronic payment like e-transfer, debit card, credit card. . Emerging innovations in the payment for goods and services in electronic commerce promise to offer a wide range of new business opportunities. In this regard, electronic payment systems and e-commerce are highly linked given that on-line consumers must pay for products and services.

CONCLUSIONS

The study concluded that e-sourcing significantly influences operational performance by saving on costs and time. E-supplier selection also significantly influences operational performance by ensuring valid reputable suppliers are selected. E-ordering significantly influences operational performance thus is guarantee for best value for money for the ordered goods and services. Lastly, e-payment significantly influences operational performance by reducing fraudulent transactions in the manual payment system.

RECOMMENDATIONS

County governments as public entities should embrace e-sourcing as an effective way of saving costs and time in the procurement process. Secondly, county governments should fully implement use of e-supplier selection so that they get capable and reputable supplier with less lead time in supplying goods and services. Thirdly, county governments should adopt an effective e-ordering procurement system to check pricing of goods and services. Lastly, county governments should adopt a secure and upgraded e-payment system to reduce fraudulent

transactions prompted by the manual payment system.

Areas for further research

A similar study can be replicated in private business enterprises so as to compare empirical results.vAnother study can be done to assess if electronic fraud can affect the user acceptance of e-procurement systems in public organizations.

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