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DETERMINANTS FOR THE IMPLEMENTATION OF ELECTRONIC PROCUREMENT AMONG COUNTIES IN THE NORTH EASTERN REGION, KENYA

[1]NOOR SIRAT MAALIM, [2]DR.SAMSON NYANG'AU PAUL

Abstract: **Public procurement in Kenya has proved to be long, cumbersome and a time consuming affair. The public procurement system has several deficiencies that contribute to huge losses in public funds, moreover; it has also proved to be costly for both buyer and supplier or organizations, besides being regarded as a perpetrator of corruption. However, the introduction of e-procurement by the government is intended to meet the basic principles of good governance: transparency, accountability, and integrity in public procurement in Kenya. Therefore, this study aimed at establishing the procurement challenges influencing implementation of electronic procurement among counties in the North Eastern region. The study was guided by the following specific objectives: to determine the influence of training and development in the implementation of e-procurement; to examine the influence of technological infrastructure in the implementation of e-procurement; to analyze the influence of top management commitment in the implementation of e-procurement and finally; to determine the influence of suppliers' capacity in implementation of e-procurement among counties in the North Eastern region. The theories that was used for the study are innovation diffusion theory, human service delivery theory, technology acceptance theory and information system success theory. To realize this objective, a survey research design was adopted. The target population of the study constituted Mandera, Wajir and Garissa county in the department of procurement, ICT, accounting/finance and administrative / public service department from which the target population was 280 respondents with a sample size of 140 respondents. The study used stratified sampling which constitutes 50% of the target population. Primary data was collected from staff members and heads of procurement, ICT, accounting/finance and administrative / public service departments using a combination of questionnaires and structured interviews. A fact sheet was used to summarize the data collected before analysing using (SPSS) to obtain descriptive statistics; data collected was presented in the form of frequency tables. Regarding technological infrastructure, the study confirms that technological infrastructure, affect implementation of electronic procurement of counties in the north eastern region given by multiple linear regression model which revealed that technological infrastructure is significantly and positively affect implementation of electronic procurement of counties and thus for every unit increase in technological infrastructure enahnces the implementation of electronic procurement of counties. The study further established that training and development had a significant and positive effect on the implementation of electronic procurement of counties in the north eastern region. The study also established that top management commitment had significant and a positive effect on the implementation of electronic procurement of counties in the north eastern region. The study finally established that suppliers' capacity had significant and a positive effect on the implementation of electronic procurement of counties in the north eastern region.**

Keywords: **technological infrastructure, training and development, top management commitment and suppliers' capacity.**

1. INTRODUCTION

According Emma Doolan, (2014) procurement can be defined as the act of obtaining or buying goods or services including preparing, processing of demands as well as the end receipt and approval of payment. Therefore, Procurement entails the whole process of acquiring property and/or services and it commences when an agency identifies a necessity

and decides on its procurement requirement (Dyckhoff, 2004). Procurement continues through the processes of risk assessment, seeking and evaluating alternative solutions, contract award, delivery of and payment for the property and/or services and, where relevant, the ongoing management of a contract and consideration of options related to the contract (Dyckhoff, 2004).According to Mawenya (2008) considerable inefficiencies exist in the conventional procurement processes in the public sector which to a greater extent affect the core principle of value for money in the procurement of public infrastructure mainly as a result of corruption. Vee and Skitmore (2003) articulated some areas prevalent with corruption to be proprietary information infringements, collusive bidding during tendering, cash inducements (bribery) for overvaluing work performed, negligence in the form of poor quality documents and fraudulent conduct by the parties involved in the procurement process and these warranted the introduction of e-procurement.

Statement of the problem

In Kenya, more than 50% of procurement processes in Kenya public procuring entities are carried out manually, these process are costly, slow, inefficient and data storage and retrieval is poor (Malela, 2012). Moreover, TTID (2015) noted with great concern that nearly 80% of all cases before the Ethics and Anti-Corruption Commission (EACC) have a procurement element. These necessitated reforms in the public sector with a focus to integrate key functions such as procurement, accounting and ICT with a view to streamline and enhance transparency in management of public funds as well as establishing a policy requiring all government procuring entities to use the Integrated Financial Management Information System (IFMIS).

Numerous studies have been carried out locally on implementation of electronic procurement such as Odago and Mwajuma (2013) analyzed the factors affecting effective implementation of e-procurement in county governments with a focus on Kajiado County, Kenya. Otieno, Muthoni and Mungai (2013) did a survey on factors affecting use of e-procurement: a survey in selected firms in Kisii Town, Kenya. However, none of the studies conducted have delved into the challenges influencing implementation of electronic procurement in the remote Northern Eastern parts of Kenya. Thus, this study is intended to fill that gap by investigating the procurement challenges influencing implementation of electronic procurement among counties in the North Eastern region.

Objectives

i. To determine the influence of technological infrastructure on e-procurement among counties in north eastern region.
ii. To examine the influence of training and development on e-procurement implementation among counties in north eastern region.
iii. To determine the influence of top management commitment on e-procurement implementation among counties in north eastern region.
iv. To establish the influence of suppliers' capacity on e-procurement implementation among counties in the north eastern region.

2. THEORETICAL REVIEW

Innovation diffusion theory

According to Bulmer (2004) Diffusion of innovation theory can be defined as the process by which an innovation is communicated through certain channels over time among the members of a society. Moreover, Roger (1962) argued that the theory seeks to explain how, why, and at what rate new ideas and technology spread noting that the innovation must be widely adopted in order to be self-sustaining. Bird (2009) noted that the rate of diffusion is affected by an innovation's relative advantage, complexity, compatibility, trialability and observability.

Human Service Delivery theory

Oyediran and Akintola (2011) contested that the theory of human service delivery involves an understanding of how employees work within systems to deliver services, Employees are said to be a resource like any other however, unlike any other resource employees value and availability can be difficult to quantify. Services are measured in part by a subjective yard stick; therefore, comprehending the quality that is provided by any service system can be daunting task.

According to Palvia, Klingenberg and Kronhamn (2000) services cannot be touched or handled but exist as events and cannot be resold or shared between parties. Delivering a service to a person on the other hand involves having a real

person interact with her and meet her needs. For delivering any service to a person, the system designer must first consider the human element involved. The people delivering the service must be capable of interacting in a positive and effective manner. Given that services exist as events, they tend to be more variable than other products that an organization can provide.

Information systems success theory

According to DeLone and McLean (2011) information systems success theory refers to the degree of quality of system and information as it affect users' adoption and satisfaction with information systems, consequently determining organizational performance. The new model argues that system quality, information quality and service quality will have an effect on the end user usage and satisfaction, further affecting net benefits such as increased knowledge sharing and lower costs. Wixom and Watson (2009) note that information quality and system quality affect data warehousing software users' satisfaction, perceived usefulness, and perceived ease of use and usage behavior.

Technological acceptance theory

According to Davis (1993) technological acceptance theory clarify the mechanisms that influence and shape users' acceptance of new information technology and there are two specific variables that are fundamental determinants of users' attitude toward using information technology and actual use of the system: Perceived usefulness and perceived ease of use relatively to new information system design features Dewett and Jones (2001) defines usefulness as the degree to which someone believes that using a system will enhance his performance and ease of use is defined as the degree to which user believes that benefits of systems' use are outweighed the efforts for using it.

Conceptual framework

Conceptual framework can be said to be an end result of bringing together a number of related concept with a view of enlightening a given event as well as provide a broader understanding of a research problem (Imenda, 2014) A conceptual model encapsulates the relationships between and among the various variables underpinning the various procurement challenges influencing implementation of e-procurement as discussed in the foregoing sections of the literature review. The conceptual framework suggests interrelationships between and among key variables in this study with regards to technological infrastructure, training and development, top management commitment and suppliers' capacity.

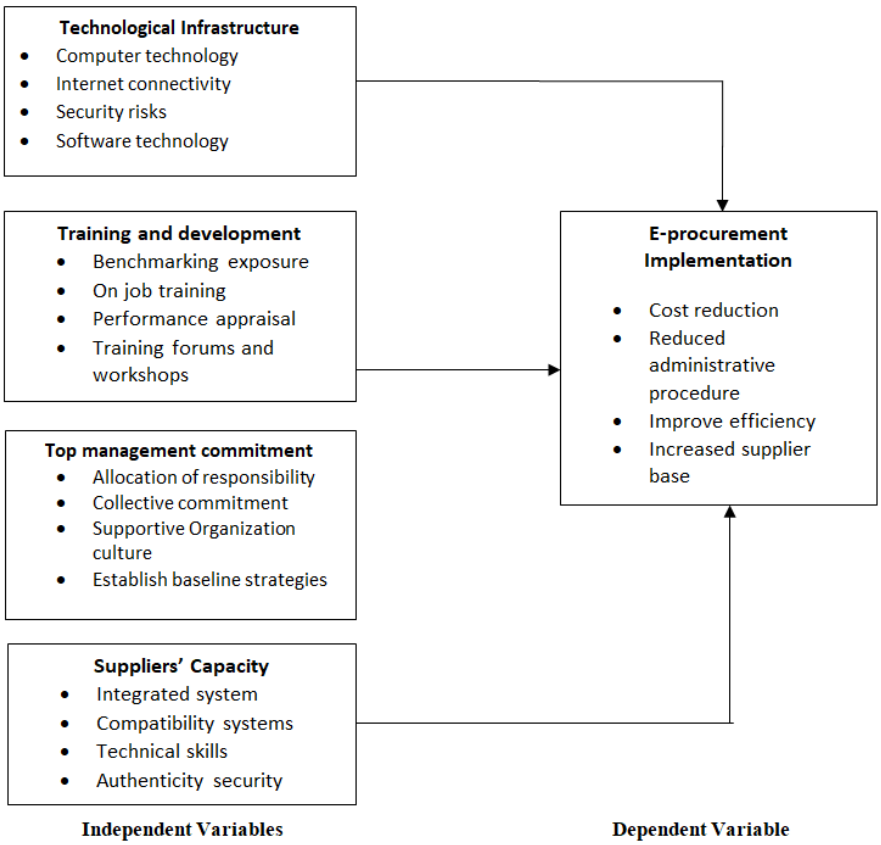

Figure 2.1: Conceptual Framework

Critique of the literature review

According to Taylor and Todd (2001) technology acceptance model does not consider any barriers that would prevent the individual from adopting a particular technology. Similarly, Bogozzi (2007) pointed out that technology acceptance model is too simple and leaves out important variables. According to Bashange (2015) a great deal of the relevant available literature which refers to the technology acceptance model tends to regard it as a dependent variable, rather than a means of determining the factors which influence behavior.

Zahid (2013) argued that the technology acceptance model does not consider factors such as age and education as external variables which could influence willingness to use the technology. Davila, Gupta and Palmer (2003) have pointed out that economists and other social scientists have overestimated the payoffs from increased education and ignored complimentary inputs such as which must exist for education to improve. Farzin and Nezhad (2010) also posits that education may simply be a market signal of the potential productivity of a worker since there is hardly any other way for firms to determine the productive attributes of a worker.

Research Gaps

Despite the importance of electronic procurement in public institutions the number of studies that have investigated procurement challenges influencing implementation of electronic procurement is scant. Henry and Godfrey (2016) analyzed the factors influencing adoption of electronic procurement in Kenyan public sector However; the research did not focus on County government but generalized public sector. Chegugu Rasto (2017) emphasized on the effect of electronic procurement practices on organization performance in public hospitals in the county government however, the study failed to articulate the effectiveness of the implementation of electronic procurement. Moreover, Mose, Njihia and Magutu (2013) conducted a study on the critical success factors and challenges in e-procurement implementation among large scale manufacturers in Nairobi, Kenya. The study concluded that most of the large scale manufacturing firms have adopted e-procurement.

However these studies did not address E-procurement adoption in public sectors. Odago and Mwajuma (2013) did a study on factors affecting effective implementation of e-procurement in county governments with a focus on Kajiado County, Kenya. The study found that management support is very crucial in implementing e-procurement in the county governments, These studies have not specifically addressed the public procurement challenges that influence implementation of electronic procurement in the North Eastern part that are characterized by marginalization as well as slow development. Therefore, this study aimed at filling the missing gaps by determining the major public procurement challenges influencing implementation of electronic procurement among counties in North Eastern region.

3. RESEARCH METHODOLOGY

The research design used in this study was descriptive research design.This study therefore, targeted 280 respondents that are head of department and member staff of the department of ICT, accounting/ finance department, administrative/ public service department and procurement department their insight and opinion will be crucial for the study.A simple random sampling was used to obtain a population sample with a target population of 280 respondents in Mandera, Wajir and Garissa county government.The questionnaires were sent electronically using the Internet, posted to respondents or delivered by hand to be filled by the respondents at their convenient time and collected later and as such the questionnaires were self-administered.Pilot study was conducted to help in identification of errors in data collection instruments and make necessary adjustment in order to ensure valid and reliable data was collected.Quantitative data collected from the document analysis were analyzed statistically using the SPSS (SPSS version 24).

Regression analysis model

The regression analysis was used to determine with statistical significance, the influence or effect that the independent variables had in the dependent variable. The multiple regression models were of the form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

β_0 = Constant

Y= Electronic procurement implementation

X1= Technological infrastructure

X2= Training and development

X3= Top management commitment

X4= Suppliers' capacity

βi = Coefficients of regression for the independent variables Xi (for i = 1,2,3,4)

ε = error term

4. RESULTS

Regression Results

Table 4.1: Coefficients of Independent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.455	.054		8.416	.000
Technological infrastructure	.545	.097	.716	5.646	.000
Training and development	.375	.113	.000	.000	0.000
Top management commitment	.286	.113	.000	.000	0.000
suppliers' capacity	.231	.083	.000	.000	0.000

From the data in the above table the established regression equation was;

$Y=0.455+0.545X_1+0.375X_2+0.286X_3+0.231X_4$

The results in Table 4.1 indicate that technological infrastructure affect implementation of electronic procurement of counties in the north eastern region given by multiple linear regression model which revealed that technological infrastructure is significantly and positively affect implementation of electronic procurement of counties and thus for every unit increase in technological infrastructure enahnces the implementation of electronic procurement of counties.

Training and development had a significant and positive effect on the implementation of electronic procurement of counties in the north eastern region. This indicates that training and development was effective in influencing implementation of electronic procurement of counties. This has an implication that the organization that engages its employees in works related learning, professional courses and seminars stand the chance of minimizing the cases of level of complains of public services and increasing efficiency in service delivery.

The study established that top management commitment had significant and a positive effect on the implementation of electronic procurement of counties in the north eastern region. This implies that if the e-procurement system does not have the full support of the top management team, there is every reason for it to fail therefore, it is important to make sure that the top management has given full support for the adoption of e-procurement and that considerable attention and support should be provided by senior management to ensure that procurement reforms have been well understood in the agency.

Suppliers' capacity had significant and a positive effect on the implementation of electronic procurement of counties in the north eastern region. These results indicate that the suppliers' capacity was effective in implementation of electronic procurement of counties. Therefore, large firms with a large purchasing workforce can comfortably adopt electronic procurement purchasing workforce since it has greater information processing capacity needs and organizational power

than smaller firms. Moreover, a buying firm with a large purchasing unit is also more likely to possess the financial resources and bargaining power to achieve the economies of scale required.

5. CONCLUSION

Regarding technological infrastructure, the study confirms that technological infrastructure, affect implementation of electronic procurement of counties in the north eastern region given by multiple linear regression model which revealed that technological infrastructure is significantly and positively affect implementation of electronic procurement of counties and thus for every unit increase in technological infrastructure enahnces the implementation of electronic procurement of counties. The study also established that training and development had a significant and positive effect on the implementation of electronic procurement of counties in the north eastern region. The study further established that top management commitment had significant and a positive effect on the implementation of electronic procurement of counties in the north eastern region. Finally, the study established that suppliers' capacity had significant and a positive effect on the implementation of electronic procurement of counties in the north eastern region. These results indicate that the suppliers' capacity was effective in implementation of electronic procurement of counties.

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