CRITICAL SUCCESS FACTORS IN THE IMPLEMENTATION OF E-PROCUREMENT IN PUBLIC ENTITIES IN KISUMU COUNTY, KENYA

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DECLARATION

This Research Project is my original work and has not been presented to any university for an academic award.

Signature ……. Date ……..

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D61/61822/2013

This Research project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

I find it worthy and justified to dedicate this research project to all adult learners who strive and toil hard in their educational pursuits. May the Almighty God give them courage and hope.

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I wish to thank the Almighty God for guiding me throughout this project. My sincere gratitude to my family for their support during my studies. I would also like to thank my supervisor Mr. Gerald Ochieng Ondiek for his close guidance while carrying out this research work.

ABSTRACT

There have been significant efforts in the public sector to improve public procurement processes in Kenya. These efforts have mainly focused in ensuring improved efficiency and saving of costs through public procurement system, by exploiting ICT to institute systems that facilitate the procurement process. E-procurement has come out as a popular system that has been adopted by organizations to achieve these objectives. A major concern is that despite the benefits of using e-procurement in public entities, its implementation has been largely slow. The study was geared to establish the critical success factors in implementation of e-procurement in public entities in Kisumu County. The study assumed a descriptive research design. The target population was composed of procurement professionals in public entities in Kisumu County. The study found that staff training on e-procurement tools, allocation of adequate resources on e-procurement, top management support towards e-procurement implementation, early supplier involvement during e-procurement implementation and reliable in internet service provider were critical when rolling out the e-procurement system in public entities. The study identified the factors that act as prerequisites to implementation of e-procurement; change management programs for users on e-procurement, supplier involvement and availability of a reliable internet service provider. The study recommended that staff training on e-procurement should be given much more emphasis and e-procurement be given priority during planning and budgeting process. Top management to commit to support and ensure a seamless implementation of e-procurement. Change management programs to be handled in an all-inclusive manner for users to buy in on the benefits of e-procurement.

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CSFs	Critical Success Factors
E-MRO	maintenance, repairs and operations
E-RFQ	Request for Quotation
ERP	Enterprise Resource Planning
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IFMIS	Integrated Financial Management Information Systems
IT	Information Technology
PFM	Public Finance management
PPADA	Public Procurement and Asset Disposal Act
PPDA	Public Procurement Disposal Act
PPRA	Public Procurement and Regulatory Authority
TAM	Technology Acceptance Model
TOE	Technology Organization Environment

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

In the ever evolving business field, services that rely on technology have become an integral part of business for firms looking to provide their customers with cost effective solutions. Companies have been using Information Technology (IT) to streamline and drive most of their processes like purchasing. Improvements in information, communication and technology (ICT) sector has enabled companies to change their focus from the traditional methods of service delivery to electronic platforms in business such as e-Procurement and philosophies so as to ensure sustainability (Lee *et al*., 2007). During automation of the Supply Chain process, e-Procurement provides several advantages which every organization needs to consider adopting for efficient supply chain management. The development of information technology has brought about the internet which has been very resourceful for the automation of procurement function in organizations. For effective implementation of supply chain management, an organization should ensure there are initiatives for improvement of its supply chain department. This should be followed by evaluation depending on how the practice has an impact on the efficient integration of whole supply chain processes (Bowersox, 2009).

This study will be anchored on two theories; Technology - Organization - Environment framework theory developed by Tornazky and Fleisher (1990). This framework gives an account of factors that influence adoption of this technology within a firm and the chances of these factors being adopted. The theory looks at firm's adoption and implementation of technology related innovations and what influences them. The other

theory is the Technology Acceptance Model theory which looks into two independent factors; to what extent an employee looks at system and believes it will impact positively on performance, and to how much an employee views the very system will require least effort.

The key issues in public procurement in Kenyan has been allegations of fraud, corruption and high inefficiencies arising from weaker controls in the procurement process. This has led to massive loss of public funds. E-procurement has been proven within public sector as a very effective tool for introducing reforms in procurement of goods, services and works with the aim of achieving accountability and transparency (OGC 2003). The Kenyan government therefore introduced an e-procurement system through the Integrated Management Financial Information System (IFMIS) to be used in conducting the procurement process from requisitioning, tendering, contract award and payment. However implementation of this has faced many challenges and as a result stagnated; unskilled workforce and little or no training programs on e-procurement; Unstable IT infrastructure and unreliable internet sources, lack of coordination among government institutions and slow pace implementation of the system and resistance to convert to e-procurement (CIO East Africa, 2014).Kishor *et al*, (2006) concluded that there should be more consultations among stakeholders on what constitutes the critical success factors during implementation of e-procurement if the initiatives in the public sector are to facilitate further developments in the information economy. Stakeholders should be concerned that besides many benefits derived from the use e-procurement in the public

entities, full implementation has not been realized due to slow pace of implementation that has stagnated the whole process.

1.1.1 Critical Success Factors

Success factors refer to the particular areas where the outcomes, if sufficient, will put a firm in a competitively advantaged position in terms of performance. These are specific areas where the business has to get it right for it to prosper. If the outcome in these areas is insufficient, the firm's attempts will be in vain. There are several matters of importance that seek the management's attention in equal measure in business making it very difficult to steer everyone in the team towards the same direction so as to focus on the real essentials. Therefore this is where CSFs can assist since they form critical areas of activity require excellent performance if an organization is to attain its goals. By identifying CSFs, an organization can establish a known point to refer so as to help in evaluating the performance of its business.

CSFs strongly relate to the mission and vision of a business. The mission and vision are derived from the targets and the desired outcome, CSFs zero in on the very vital areas of both the desired outcome and how to arrive at it. CSFs are critical to an organization because it takes into account the fundamental changes in the environment thus making organizations more proactive (Bett, 1995).

1.1.2E-Procurement

E-procurement refers to making use of information, communication and technology (ICT) when carrying out the procurement process from the first stage a need arises to the final stage of post purchase review. These stages include sourcing, negotiating, placing orders, receiving and reviewing the whole purchase process (Croom & Brandon Jones, 2004). E-Procurement stems from the word e-commerce which refers to carrying out a transaction electronically preferably via the internet. E-procurement is therefore a solution of e-commerce that strives to make the whole procurement process from the purchaser to the supplier and back again facilitative, integrated and efficient flow.

The components of e-procurement include ERP (enterprise resource planning) which deals with raising and approval of purchase requisitions, ordering, receipt of delivered goods and services via that is internet based. E-MRO (maintenance, repairs and operations) which deals with receiving services. E-sourcing deals with choosing and registering the right suppliers through the internet. E-tendering which entails sending to suppliers requests for price quotes of specific goods and services expecting feedback through the internet preferably on email. E-auction refers to buying goods from a number of existing and new suppliers via the internet. E-market sites, in this case the buyer can access products and services of selected suppliers then add them to shopping carts, raise requisitions and seek approvals, raise orders, receive the delivered goods and generate electronic invoices based on financial systems that are integrated to supply chains of the buyers and suppliers (Bailey, 2008.)

The commonly used e-procurement tools in Kenyan public sector include e-RFQ, e-tendering, e-sourcing and e-auction. It is universally accepted that infrastructures like e-Procurement systems have increasingly been interconnected and integrated with infrastructures that are compatible to enhance the speedy growth of enterprises. E-Procurement has gained popularity due to benefits associated with its adoption that include reduced in lead times and total cost of procurement process and improved transparency of the process (Bof & Previtali, 2010). E-Procurement is not a local phenomenon but a global one which has been used in the business world for global sourcing of goods and services. It enables the participants to reduce cost, break trade barriers and reduce the number of agents who cause profit reduction in the supply chain.

E-procurement in the context of public sector is part of the economy and used by the government in delivering services to its citizens. E-procurement system is supplier and buyer based with the presence of a software .Benefits that arise from the e-procurement are transparency ,process efficiency, cost reduction, paperless environment, new supplier discovery and a streamlined procurement process. According to Burton, (2009) public procurement is the major instrument in aiding and efficient management of public resources. Public procurement is increasingly becoming recognized as it is major factor in effective management of public funds as part of long term plan in meeting the procurement needs.

1.1.3 E-procurement implementation.

Implementation in information system context refers to the effort inputted from the point an idea (system) is initiated all the way to its execution and completion or collapse. (Grizberg, 1979). Chan and Swatman 1998 defined implementation as a process involving change in an organization which runs over a significant time period to produce desired results. There are five stages of implementation of information technology solutions as suggested by Cooper & Zmund 1990; adopt a structural layer of initiation, adoption, acceptance, make a routine and thereafter infusion. Infusion would refer to the stage where e-procurement is fully implemented in the organization and is at its maximum potential.

Initiatives of e-procurement in the public sector are still in their infancy stages and therefore this approach would be a suitable guide in the selection of specific e-procurement initiatives within public entities. E-procurement implementation strategies should be aligned with the following areas; the organization and its management, the organization's routine practices and processes, existing systems and advanced technology. The public entity adopting e-procurement should focus on these areas when initiating the e-procurement model since these three areas will be very significant during implementation of the system (Local authority strategy for e-procurement, 2003)

There are several factors have been found as influencing the success of e-procurement in an organization; these factors include the availability of managerial and technical competency in the organization as well as adequacy of suppliers with IT solutions and the availability of IT infrastructure (Mahmood, 2010).

1.1.4 Public Entities in Kisumu County

Cap 416 of the constitution of Kenya describes a public entity as a body in which the national or county government has a controlling interest and carries out procurement activities like buying goods and services using tax payers' money. Public procurement in Kenya is currently done as per Public procurement and Asset Disposal Act of 2015 (PPADA).Kisumu County is one of the 47 counties in Kenya and has its headquarters in Kisumu City. The main economic activities in the county are subsidiary farming, fishing, mining and livestock keeping. The former Nyanza province headquarters is composed of 7 sub counties and 35 wards. There are several major public entities in Kisumu County; Kisumu County Government, Kisumu County Assembly, Lake Victoria South Water board, Lake Basin Development Authority, Kenya Sugar Research Board, Jaramogi Oginga Odinga and teaching referral Hospital.

The study will be conducted in Kisumu County which has its headquarters as one of the three cities in Kenya after Nairobi and Mombasa. Kisumu County government adopted the national government IFMIS initiative and findings from this study can be used and generalized to reflect on all other counties. Kisumu County is chosen as the study area since very little has been done in establishing the key factors that would ensure seamless implementation of e-procurement after the IFMIS program initiative of the national government. Few public entities in Kisumu County have shown efforts towards adopting e-procurement to purchase goods and services. This is evident from the challenges faced in service provision by public entities that have not implemented e-procurement. It is

therefore prudent to find out the key factors that would ensure successful implementation of e-procurement in public entities in Kisumu County.

A good procurement system should be guided by the principles of good governance and values such as transparency, accountability and integrity Wittig (2003). However, the procurement system in the Kenyan context has been riddled with allegations of fraud, corruption and inefficiencies arising from weaker controls in procurement processes. These gaps in the Kenyan public procurement system has led to embezzlement of public finances. E-Procurement has today become a point of reference for most organizations in trying to advocate for transparency and good governance in public procurement especially in developed and developing nations. It has also become an effective tool for instituting major reforms in public procurement and establishing a fully transparent and open procurement process. The IFMIS system was created by the Government to enhance efficiency during important exercises such as planning and budgeting, public procurement, expenditure management and reporting in the both levels of Governments in Kenya; national and county.

IFMIS was born as a Government's initiative to reform the Public Finance Management (PFM) system so as to ensure accountability and transparency. These reforms had the main objective of strengthening PFM systems to ensure transparency, accountability and integrity in public expenditure and to fight against wasteful spending and corruption. These reforms focused on the heart of PFM systems of budget preparation and execution, public procurement and revenue collection among others. The IFMIS e-procurement

module was launched by the Kenyan Government in August 2014 thereby mandating the public procurement personnel to implement it in their various entities (CIO East Africa, 2014).

1.2. Research Problem

Public procurement in Kenya has significantly evolved since 2005. Initially, the system had no regulations in the 1960suntil in 1970s to 1990s when it was regulated by formal communication from treasury. The introduction of PPDA Act of 2005 and its Regulations in 2006 laid down standard procedures and guides for buying goods, services, works and disposing public assets (Mwiriki, 2007). The PPDA of 2005 has been amended to PPADA 2015. The main objective of reviewing these policies is to ensure efficiency in public procurement processes and achieve best value for money in use public funds.

Kisumu County is one of the counties far away from the capital city of Kenya but home to a number of key parastatals entrusted with providing essential services to the citizen. Proper procurement procedures in a timely manner will enhance service delivery in these organizations. The existing studies have concentrated on different aspects of procurement as opposed to focusing on the critical factors which will ensure successful implementation of e-procurement. In the study to evaluate e-procurement on supply chain performance in Kisumu County, Mwangi and Kariuki (2013), established that public procurement process was not efficient and effective as expected, and as a result loss public funds through dubious deals was quite rampant. The report advocated the need to major reforms of the Kenyan public procurement system. A Collaboration between the

World Bank and Kenyan government commissioned a study to evaluate the procurement procedures. The main recommendations from both studies was that key reforms in the procurement systems were very necessary especially in e-procurement order to effectively manage resources. That was to enable the system to be open and transparent, devolve authority, incentives in procurement thresholds, planning, and constitute supplies manuals (World Bank, 2008).

Kinoti (2013) conducted a study on the suppliers' preparedness to participate in e-procurement within the government's system. However it hardly touched identified any critical success factor for implementation of e-procurement. Kamotho (2014) in his study only identified the challenges that public entities face when adopting and implementing e-procurement. However his study did not bring out any factors that are key to successful implementation.

Orina (2013) did her study on how ready the public sector in Kenya is on e-procurement, and established that staff embracing change, staff lacking passion for the job, lack of relevant knowledge on e-procurement, and existing policies on procurement impacted on how ready the public entities were on e-procurement. Her study however failed to establish why full implementation of e-procurement has not been achieved by public entities.

Kishor et al, (2006) concluded that there should be more consultations among stakeholders on what constitutes the critical factors that would ensure successful

implementation of e-procurement if the initiatives in the public arena are to facilitate further developments in the information economy. Stakeholders should be concerned that besides the many benefits derived from the use e-procurement in the public entities, full implementation has not been realized due to slow pace of implementation that has stagnated the whole process. This study seeks to answer the following question: What are the critical success factors in implementation of e-procurement in public entities in Kisumu County?

1.3. Research Objective

To establish the critical success factors in the implementation of e-procurement in public entities in Kisumu County.

1.4. Value of the Study

The findings of this research would provide information on the critical success factors to public entities that intend to adopt and implement e-procurement successfully. Those public entities that have adopted the e-procurement system would also benefit on how to improve on the system to attain full implementation. The findings of the study would be resourceful to policy formulation in both private and public sectors of the economy since it will form a key ingredient when reviewing the existing procurement systems for continuous improvement.

This study added a voice to similar studies on the need for full implementation of e-procurement by all public entities across the country. This would be major contribution

towards the reforms in public procurement system in Kenya. The findings of this research would be beneficial to the donor community who are major contributors of development funds for key projects to the Kenyan government. The research findings would assist in ensuring best value for money is achieved in the use donor funds.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature in relation to e-procurement. The section gives an overview of theoretical literature that underpins e-procurement, the critical success factors in the implementation of e-procurement in public entities.

2.2 Theories on e-procurement

This section presented the theories on e-procurement that provide a theoretical framework for establishing the critical success factors in implementation of e-procurement in public entities in Kisumu county. The theories include Technology-organization – environment (TOE) framework theory (Tornazky and Fleisher, 1990) and Technology acceptance model (TAM) Bargozzi (2007). TOE framework gives an account of factors that influence adoption of this technology within a firm and the chances of these factors being adopted, while TAM defines in detail user acceptability and behavior. These two school of thoughts provides a theoretical framework for establishing the critical factors for successful implementation of e-procurement in public entities in Kisumu County.

2.2.1 Technology-Organization-Environment (TOE) Framework

Technology - organization - environment framework theory was modelled by Tornazky and Fleisher (1990). It gives an account of factors that influence adoption of this technology within a firm and the chances of these factors being adopted. A firm's implementation of a technological innovation tends to be influenced by ; technological

context i.e. internal and external technologies (either or both equipment and processes) in relation to the firm; organizational context i.e. the outlook and the firm's resources in terms of size, extent of centralization, extent of formalization, management layout, human resources and its relations amongst employees; the environmental context that is the structural layout of the entire industry and how big or small the industry is, the firm's competitiveness, macroeconomic and regulatory environment.

Tornatzky, Fleischer and Chakrabarti (1990) came up with a framework for adoption by organization based on Contingency Theory of Organizations. This theory suggests that an effective organization ought to have a structure which is aligned to its environmental needs. And how effective the adoption process is, will be based on the internal and external environmental factors that include firm size, technological factors and organizational strategy. Oliveira and Martins (2010) posited that the decision makers should take into account technology, organization, and environmental factors that affect technology adoption. And thus, this framework was named as 'TOE' framework and used successfully in the study of adoption within organizations.

Gangwar, Date and Ramaswamy (2015) stated that the TOE framework has been cropped into IT studies in the past and it has been resourceful in giving analytical framework insights to be used for studying the implementation of e-procurement platform in government departments and the private sector. Thus it will be applicable in this study in identifying the key factors that would ensure successful implementation of e-procurement in public entities in Kisumu County.

2.2.2 Technology Acceptance Model (TAM) theory

Technology acceptance theory describes how users come to accept a technology and make of use it. It explains to what extent an employee views the system and believes it will improve the desired work output, and to what extent an employee thinks that using the system will require the least effort.

The theory postulates that perceived usefulness entails how users feel in the sense that intended innovations contributes to making work more effective thereby improving on results, while ease of use as viewed by the employee assesses the efforts made in order to use the new system (Chuttur, 2009).

The Technology Acceptance Model theory has been used for decades to guide studies aimed at explaining information technology and technology (ICT) usage behavior (Bagozzi, 2007). The theory delves on analyzing the drivers of potential users to approve or refuse to use the system and predicts users' reaction when using the system. Under TAM, the emphasis is on how much a user views the system to improve the desired work output and the how much the system is easy to use.

Venkatesh and Davis (2000) extended the technology acceptance theory with explanations on the factors that contributes towards the user's belief on ease of use and belief on usefulness. Their model extended the theory based on factors that have an effect on both the degree of impact on performance and ease of using the system. The model reveals that the factors that influence degree of usefulness of a system are; output quality,

result oriented image, subjective norm and job relevance. Subjective norm can be moderated by two factors that is; voluntariness and experience. In essence, image can be described as how individual feels after adopting particular technologies (Feuerlicht, 2010).

This theory is applicable in the study as user acceptability of the e-procurement is one of the key critical success factors that influence its adoption. Thus technology acceptance model (TAM) will be applicable as far as this study is concerned.

2.3 Critical Success Factors for the Successful Implementation of e-Procurement

For any e-procurement initiative either in the public sector to be successful, there are a several factors that are critical to its success. Gunasekaran and Ngai (2008) in an international journal on the adoption of e-procurement in Japan, an empirical research, mentions that these factors must be addressed for successful implementation of e-procurement in an organization. The factors include; the users acceptance of new systems of information. The quality of information that would obtained, trust in the new systems, perceived risks, skills that staff have and the training they would require, support from the top management at the organization, benefits that would be obtained from implementing the new system and continuous assessment of the benefits, benchmarking and compliance to best practices and factual selection of e-procurement solution (Gunasekaran & Ngai, 2008).

Mose (2012) did a research on the impact of e-procurement on the operations of Kenya Commercial Bank (KCB). The study noted five critical factors that had the greatest impact on e-procurement. These five factors are user acceptance of e-procurement systems, reliability of information technology and supplier performance, top management and employees' commitment to success of adoption, monitoring the performance of e-procurement systems and senior management support to e-procurement implementation process. The study also reveals that in the process of implementing e-procurement, there are challenges including some resistance to change by some of those employees, some managers were not supportive of the new changes thus pulling down the adoption process, there was existence of the old information technology (IT) systems and equipment that was still in use and lack of board approval to using e-procurement system. These challenges have to be overcome, if the organization is to fully implement e-procurement and maximize its potential.

Gunasekaran, McGaughey, Ngai and Rai (2009), on e-procurement adoption in the South-Coast SMEs', mentions that e-procurement is amongst the most successful applications in many small and medium enterprises business operations as these SMEs seek better quality business processes. The paper confirms that e-procurement has quickly been adopted because of the benefits that it affords an organization. Some of these benefits include time saving as the goods and services are ordered via a click of a button, this then spares time for the small business owners and operators to concentrate on other matters of the business. It saves costs since an entrepreneur can compare and contrast prices electronically and the best is picked much easily without any hassle.

Another benefit is improved efficiency in the working place afforded by e-procurement; these three are the drivers of implementation of the e-procurement in SMEs.

Aman and Kasimin (2011) conducted a case study of e-procurement implementation in Malaysian government, she established that a properly implemented e-procurement system helps companies to connect to each other. The e-procurement platforms also links their business processes directly to their suppliers and helps to manage all interactions with other partners in business.

Makali (2015) in the study one-procurement and procurement performance of supermarkets in Nairobi'. The study stated that adoption of e-procurement is still low as this is a new angle of doing business for supermarkets. Though in the short period that e-procurement platform have been in place, the businesses that had adopted it experienced enhanced cost efficiency through the reduction of wastage like the usage of paper and reduced cost of sourcing for suppliers. The study also noted that efficiency and effectiveness of operation at the work place has been improved due to better communication within the organization. The e-requisitioning, e-tendering and e-sourcing has improved operations at the supermarkets. The study recommends that those policy makers in the ICT sector should encourage retail businesses in the country to exploit information systems for growth.

Paniand Kar (2011) stated that training and capacity building of staff in procurement practices is a critical factor for successful e-procurement implementation. The staff need to be well trained and equipped so as to be well conversant with the e-procurement systems. Considering that the success of e-procurement is dependent on the users who are part of the implementation process.

2.4 Summary of Literature Review

Mose (2012) did a study on the impact of electronic procurement on the operations of Kenya Commercial Bank (KCB). The study noted the critical factors that had the greatest impact on e-procurement. The study was done in the banking industry which is deemed to have the financial ability to raise funds for capital investments like adopting and implementing e-procurement fully. There exists a gap in relating its findings to the public sector where the determinants of implementing e-procurement are different. The public sector is fully funded by the tax payers' money and funding a project like e-procurement is preceded by long procedures and protocol.

Gunasekaran, McGaughey, Ngai and Rai(2009), on e-procurement adoption in the South-Coast SMEs', mentions that e-procurement is amongst the most successful applications in many small and medium enterprises business operations as these SMEs seek better quality business processes. The study was done in Hong Kong a different environmental setting and thus not applicable in the Kenyan context. Furthermore the study focused on small and medium enterprises which are private entities.

Aman and Kasimin (2011) conducted a case study of e-procurement implementation in Malaysian government, she established that a properly implemented e-procurement system facilitates interconnection amongst firms. The e-procurement platforms also integrate their business processes directly with those of their suppliers and helps manage interactions amongst partners in business. This study was done in the Malaysian government which is culturally, economically and structurally different to the Kenyan setting, making the findings irrelevant in the Kenyan context.

Makali (2015) in the study on e-procurement and procurement performance of supermarkets in Nairobi'. The study stated that adoption of e-procurement is still low as this is a new angle of doing business for supermarkets. The study was done in the retail sector and its findings may be more relevant and applicable to the business world, thus creating a need to understand how the factors impact the public sector.

Kinoti (2013) did a study on e-procurement adoption by parastatals in Kenya: The Supplier Perspective. This study set focus on the parastatals but concentrated on the supplier perspective and thus there is need to identify critical factors that would propel successful e-procurement implementation in public organizations.

Amin (2012) did a study in e-procurement and organizational performance in Commercial state corporations in Kenya. The study established that that many of public sector organizations in Kenya have partially implemented e-procurement especially when buying goods and services. However the study did not look at the critical success factors

that may spearhead the process of fully implementing e-procurement in the state corporations. These studies concentrated on different aspects of e-procurement as opposed to success factors. The current study will seek to identify the critical factors that would ensure successful implementation of e-procurement.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter discusses the research design, study population, the instruments used to collect data, tools used for analyzing the collected data and presenting it.

3.1 Research Design

The study assumed a descriptive research design. It was suitable since it describes the way things and events are in their natural setting. Creswell (2013) states that a descriptive research design puts things as they are, and is used whenever the data being collected to describe a phenomena. The research design also possesses enough provisions for protection against bias and maximized reliability. Creswell (2013) further mentions that to get a full picture of the subject under study, then the investigation must be done in a systematic order. Therefore descriptive survey seems to be the best strategy that fulfilled the objective of this study.

3.2 Population

The population of interest was procurement staff who are directly involved in procurement activities in the public entities in Kisumu County. According to Kenya Bureau of Statistics (Kisumu County Office, 2014), there are 34 public entities in Kisumu County. A census survey of all the 34 public entities in Kisumu County was used for the study.

3.3 Data Collection

Primary data was collected using a structure questionnaire. The respondents in the study were staff from procurement department. The questionnaire was developed by the researcher to have closed ended questionnaires for uniformity of response and ease of analysis. It had section A on general information and section B covering the success factors for implementation of e-procurement on a five point Likert scale.

The questionnaire was administered to the respondents at their place of work. The researcher dropped the questionnaires and picked them later to allow the respondents a week lapse time to fill them before coming to collect them for analysis. Contact of the respondents was obtained at the point of administering the questionnaire and call back was done through phone calls to ensure the respondents filled the questionnaires within the agreed time.

3.4 Instrument Validity

The questionnaires were pre-tested between two procurement staff to ensure content validity and its suitability for use. This assisted in restructuring it and planning for the data collection exercise in terms of resources and time.

3.5 Data Analysis

Upon receipt of the questionnaires, they were coded and checked for completeness. Descriptive analysis was done where simple means and standard deviation were computed. The findings were presented in tables, pie charts and bar graphs.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presented the findings of the analyzed data collected from the field by use of questionnaires. The collected data was analyzed using descriptive statistics and the findings were summarized then presented in tables, pie charts and bar graphs.

4.2 Response Rate

The study targeted 2 respondents in procurement department from each of the 34 public entities in Kisumu County. Out of the 68 distributed questionnaires, 58 were dully filled and returned. This translated to a response rate of 86%. This response was sufficient and representative of the target population to conform to Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is excellent. The findings are illustrated in Table 4.1

Table 4.1: Response Rate

Response Rate	**Frequency**	**Percentage**
Response	58	86
Non Response	10	14
Total	**68**	**100**

Source: Research Data

4.3 Demographic Information

The general back ground information about the respondents was examined. This could help in establishing the qualification of these respondents. The findings are presented subsections.

4.3.1 Gender of the Respondents

The number of male and female respondents that took part in the study was assessed and the findings are clearly indicated in Table 4.2.

Table 4.1: Gender of the Respondents

Gender of the Respondents	Frequency	Percentage
Male	38	66,7
Female	20	33.3
Total	**58**	**100**

Source: Research Data

The findings from Table 4.2 indicate that 38 respondents representing 66.7% were male while 20 representing 33.7% were female.These finding implies that majority of the staff at the public entities in Kisumu are males and therefore the relevant authority should design a gender sensitive hiring and recruiting policy. The presence of a gender sensitive policy will bring a balance between the two genders and this shall be consistent with the constitutional requirements.

4.3.2 Respondent's Level of Education

The highest level of education the respondents had acquired was determined and the findings are represented in Table 4.3

Table 4.2: Highest Level of Education

Level of Education	Frequency	Percentage
Diploma	19	33.3
Graduate	29	40
Post Graduate	10	16.7
Total	**58**	**100**

Source: Research Data

The findings from Table 4.3 indicated that 50% of the respondents were graduates, 33.3% had a diploma and 16.7% had obtained a postgraduate. Therefore the respondents had attained the necessary education and knowledge on critical success factors in the implementation of e-procurement in public entities in Kisumu County.

4.3.3 Membership to a Procurement Professional Body

The study sought to determine the number of respondents who were members of a procurement Professional body. The findings are indicated in Table 4.4.

Table 4.4: Membership to a Procurement Professional Body

Level of Education	Frequency	Percentage
Yes	38	67
No	20	33
Total	**58**	**100**

Source: Research Data

From the findings in Table 4.4, 67% of the respondents were members of procurement professional body while 33% had not registered to become members of a procurement professional body.

4.3.4 Length of Service

The number of years the respondents had worked at the public entities was determined and the findings are indicated in Table 4.5.

Table 4.5: Number of years worked

Gender of the Respondents	Frequency	Percentage
3 – 6 Years	10	16.7
6 – 9 Years	19	33.3
9 – 12 Years	19	33.3
Above 12 Years	10	16.7
Total	**58**	**100**

Source: Research Data

The findings in Table 4.5 indicate that the majority of the respondents had worked between 6 to 12 years, while 16.7% had worked 3-6 years and above 12 years.

4.3.5 Attendance of IFMIS E-Procurement Training

The respondents were also probed on whether they had attended IFMIS E-procurement training. The findings are represented in Table 4.6

Table 4.6: Attended IFMIS Training

Attended IFMIS Training	Frequency	Percentage
Yes	38	67
No	20	33
Total	**58**	**100**

Source: Research Data

From the findings in Table 4.5, 67% of the respondents had attended IFMIS training while 33% had not attended the IFMIS training.

4.4 Success Factors

A list of 11 success factors in the implementation of e-procurement in public entities in Kisumu County were identified and respondents were requested to indicate the extent which they agreed or disagreed with each factor. A Likert scale was used in the scale of 1-5 where: 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree, and 5= strongly agree. From the responses, descriptive measures of central dispersion: mean, standard deviation and ranking were used for ease of interpretation and generalization of findings; the findings are illustrated in Table 4.7.

Table 4.7: Success Factors

Statements	Mean	Std. Dev.	Rank
Staff training/capacity building is on use of e-procurement tools and best procurement practices.	4.3333	0.5164	1
Provision of adequate resources necessary for implementation of e-procurement systems	4	0.89443	2
Top management leadership and commitment to e-procurement implementation	3.8333	0.98319	3
Early supplier involvement in implementation of e-procurement	3.8333	0.98319	4
A documented e-procurement policy manual within the organization to guide the implementation process	3.6667	0.5164	5
Availability of a reliable of internet service provider to facilitate the e-procurement implementation process	3.6667	1.0328	6
Employees' commitment to the implementation of e-procurement	3.6667	0.5164	7
Existence of a project management team to spearhead, monitor and evaluate progress of e-procurement implementation	3.3333	1.03280	8
Change management programs for users on implementation of e-procurement through effective consultations	3.1667	0.75277	9
Security and authentication measures in place considering the sensitivity of data and legal nature of accountable documents.	3.1667	1.16905	10
Procurement staff possessing professional certification or membership CIPS/KISM	3.1667	0.40825	11

The findings in Table 4.5, the respondents agreed that staff training or capacity building on e-procurement tools is key to implementation of e-procurement with a mean of 4.3333 and standard deviation of 0.51640. This factor had the highest ranking. The respondents also agreed that provision of adequate resources is necessary for implementation of e-

procurement with a mean of 4.0 and a standard deviation of 0.89443 was critical to implementation of e-procurement. The respondents moderately agreed that top management's commitment and support is critical to implementation of e-procurement having been ranked third with a mean of 3.8333 and standard deviation 0.98319. They moderately agreed that it is critical to involve the supplier early in the implementation process considering that they are a major stakeholder in the procurement process, at a mean of 3.8333 and standard deviation of 0.98319 ranking at fourth. The respondents moderately agreed that there should be a documented e-procurement policy manual to guide the implementation process, ranked fifth with a mean of 3.6667 and a standard deviation of 0.5164. A reliable internet service provider to facilitate the implementation process was also key as moderately agreed by the respondents and was ranked sixth with a mean of 3.6667 and a standard deviation of 1.0328.

The respondents moderately agreed that employees in the public entities are key to the success of the implementation of e-procurement and their commitment to the process is important, this factor had a mean of 3.6667 and a standard deviation of 0.5164. The respondents moderately agreed that a project management team to spearhead, monitor and evaluate the implementation process was necessary at a mean of 3.3333 and standard deviation of 1.0328. The respondents also moderately agreed that change management programs for users on implementation of e-procurement through effective communication was also important. It is important to note that the motivation behind any change in an organization must be clearly communication and consultations with all stakeholders done. The factors that scored the least were security and authentication

measures of the e-procurement systems at a mean of 3.1667 and standard deviation of 1.16905 while procurement staff possessing professional certification with a mean of 3.1667and standard deviation of 0.40825.

4.4.1 Impact of success factors in E-Procurement

A general question relating to the impact of success factors on the implementation of e-procurement in public entities in Kisumu County was asked to the respondents and were requested to indicate the extent to which they agreed or disagreed with it. A Likert scale where: 1-5 where 1= to no extent 2=to a little extent, 3= Moderate extent 4= Great extent and 5= Very great extent.From the responses, descriptive measures of central dispersion: mean and standard deviation were used for ease of interpretation and generalization of findings; the findings are illustrated in Table 4.8.

Table 4.8: Impact of success factors in E-Procurement

Statement	Mean	Std. Dev.
To what extent do the above factors impact on the implementation of e-procurement in public entities in Kisumu County?	3.6667	.81650

The findings in Table 4.6 indicate that the respondents agreed that the success factors impacted to a moderate extent the implementation of e-procurement in public entities in Kisumu County at a mean of 3.6667 and standard deviation of 0.81650.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the summary of the research findings, concluding remarks, recommendations and suggestions for further research.

5.2 Summary of the Findings

The study aimed to establish the critical success factors in the implementation of e-procurement in public entities in Kisumu County. The findings showed that respondents strongly supported that staff training or capacity building on e-procurement tools and procurement practices is key to implementation of e-procurement. This was evident from the fact that 67% of respondents had attended the IFMIS e-procurement training. The respondents strongly supported allocation of adequate resources for implementation of e-procurement. Implementing e-procurement systems is a capital intensive project and would take a good chunk of an organizations budget.

The findings indicated that top management support was quite necessary for successful e-procurement implementation as the respondents thought the goodwill of the management being vital in the whole process. Engaging the supplier in the process from the initial stages was also critical in the implementation process as it scored the same with top management support. The findings revealed that a reliable internet service provider was equally critical to the success of e-procurement implementation as it anchored the whole process by the fact that for the e-procurement components to function, reliable source of fast internet is a must.

The least scoring factors were security and authentication measures of the e-procurement system and staff possessing professional certification, the respondents thought that in as much as these two factors were also important, they were not critical at the implementation part of the process but there would be need to give them emphasis when the systems are up and running.

5.3 Conclusion

The study concluded that staff training and capacity building on e-procurement tools is key to successful e-procurement implementation in the public organizations. The trainings especially on e-procurement are necessary to equip the procurement staff with knowledge on the e-procurement tools. The study concluded that the public entities have to set aside adequate resources for implementation of e-procurement considering it is a capital intensive project. The study concluded that top management's commitment and support is quite integral for successful implementation of e-procurement. Thus they should give e-procurement more emphasis since it impacts on organizational performance. From the study early supplier involvement in the procurement system is also very crucial for successful implementation of e-procurement considering they are a major stakeholder in the whole procurement process.

The study also concludes that a reliable internet source provider is a vital resource in the implementation process. The study concludes that it is prudent to have in place a documented policy manual on e-procurement to provide a guiding framework to save time and costs. The study concluded that a project management team should be

constituted and mandated with the sole responsibility of overseeing the implementation of e-procurement. Conclusion can also be drawn on the importance of change management program for users considering e-procurement is a new technology being implemented. Lastly security and authentication of e-procurement systems should be enhanced while encouraging staff to acquire professional certification.

5.4 Recommendation for the Study

Staff training and capacity building should be given much more emphasis. The public entities should also give priority to e-procurement during planning and budgeting process.

Top management should commit to support and allocate adequate resources that will ensure seamless implementation of e-procurement. Supplier involvement at the onset and are liable internet service provider is a pre-requisite of the project. Change management programs should be handled in an all-inclusive manner for employees to buy in on the benefits of e-procurement.

5.5 Suggestions for Further Research

This study focused on critical success factors in the implementation of e-procurement in public entities in Kisumu County.More research needs to be done on how procurement staff can leverage on professional certifications and membership. More research needs to be done on user adaptability on e-procurement through change management programs.

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APPENDICES

Appendix I: Questionnaire

Please fill out the questionnaire on:

CRITICAL SUCCESS FACTORS IN IMPLEMENTATION OF E-PROCUREMENT IN PUBLIC ENTITIES IN KISUMU COUNTY

Kindly mark with a [TICK] in the provided space the response that best suits your response on the different statements.

PART A: DEMOGRAPHIC INFORMATION

1. Name (optional)…….
2. What is your gender?

   Male [ ]

   Female [ ]
3. Which Public entity do you work for within Kisumu County?

   ---
4. What is your position in the organization? (Optional) ……..
5. What is your highest level of education?

   High school [ ] Diploma [] Graduate [] Post Graduate []
6. Are you a member of a procurement professional body?

   Yes [ ] No [ ]
7. How long have you worked in the said public entity?

   1-3 Years [ ]

   3-6 Years [ ]

   6-9 Years [ ]

   9-12Years [ ]

   Above 12 Years [ ]

8. Have you ever attended IFMIS e-procurement training? Yes [ ] No []

PART B: SUCCESS FACTORS

9. Below are several factors that are necessary for the successful implementation of e-procurement within organizations. Using a scale of 1-5 where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree, and 5= strongly agree; kindly indicate the extent to which you agree with each statement as it applies towards your organization within Kisumu County?

Statement	**1**	**2**	**3**	**4**	**5**
Staff training/capacity building is on use of e-procurement tools and best procurement practices.					
Change management programs for users on implementation of e-procurement through effective consultations					
Security and authentication measures in place considering the sensitivity of data and legal nature of accountable documents.					
Top management leadership and commitment to e-procurement implementation					
A documented e-procurement policy manual within the organization to guide the implementation process					
Availability of a reliable of internet service provider to facilitate the e-procurement implementation process					
Employees' commitment to the implementation of e-procurement					
Existence of a project management team to spearhead, monitor and evaluate progress of e-procurement implementation					
Early supplier involvement in implementation of e-procurement					
Provision of adequate resources necessary for implementation of e-procurement systems					
Procurement staff possessing professional certification or membership, CIPS/KISM					

10. In general terms; to what extent do the above factors impact on the implementation of e-procurement in public entities in Kisumu County?

Very great extent [ ] Great extent [ ]

Moderate extent [ ] To a little extent, [ ]

To no extent, [ ]

THE END

APPENDIX II

Public entities in Kisumu County

1. Lake Basin Authority
2. Kenya Sugar Research Foundation
3. Kenya Agricultural research Institute
4. Kenya Marine Fisheries Research Institute
5. Kenya Airports Authority
6. Chemelil Sugar Company Limited
7. Kenya Medical Research Institute
8. Kenya Wildlife Services
9. Water Resources Management Authority
10. Lake Victoria South Water Services Board
11. National Irrigation Board
12. Postal Corporation of Kenya
13. National Cereals and Produce Board
14. National Museums of Kenya
15. Kenya Industrial Estates
16. Kenya Ports Authority
17. Kenya Bureau of Standards
18. National Environmental Management Authority
19. National Hospital Insurance Fund
20. National Social Security Fund
21. Kenya Power and Lighting Company
22. Catering Development and Levy Trustee
23. Kenya Rural Roads Authority
24. National Housing Corporation
25. Agriculture Finance Corporation
26. Kenya Broadcasting Corporation
27. Kenya Industrial Research Development Institute
28. Kenya Electricity Generating Company Limited

29. Kenya Medical Research Institute

30. Kenya Forest Service

31. National Industrial Training Authority

32. Kenya Maritime Authority

33. Kenya Revenue Authority

34. County Government of Kisumu

Source (Kenya Bureau of Statistics)