THE EFFECTS OF E-PROCUREMENT IN PUBLIC INSTITUTIONS

(A CASE OF THE NATIONAL MUSEUM OF KENYA)

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DIPLOMA IN PURCHASING AND SUPPLIES OF

JULY 2013
DECLARATION

Declaration by the Student

This is my original work and has never been presented to any other institution or any other examination body

Name:

Signature: ______________ Date: ___________

This research project has been submitted for Examination with my approval as University supervisor.

Name:

Sign:_______________________ Date: __________
DEDICATION

This study is dedicated to the Almighty God for his blessings for the whole duration of my study.

Also to my lovely princess Nkisi Natasha. Thanks for giving me the strength to carry on even when things got tough. For the nights and days you stayed alone as I was in school and for the many nights you stayed up waiting for Daddy to return. I love you to bits. You are a blessing from above. My little angel.

Also to my family members especially my parents for their moral and financial support that they have extended to me throughout my studies. You taught me the value of education and helped me believe that I can make it in life with a little extra effort.
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This project was a success through the support got from my family as well as my friends who continually encouraged me as I undertook it.

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Lastly, I would like to thank the academic and library staff at Mt. Kenya University for their support throughout this period with research materials.
ABSTRACT

The purpose of the study was to establish the effects of e-procurement in the public sector in Kenya with National Museums of Kenya as the case of study. The specific objectives while carrying out the study involved; finding out whether e-procurement reduces cost in the public sector; establishing whether e-procurement enhances quality in the public sector; investigating if e-procurement reduces the lead time in the public sector in Kenya; and finding out if e-procurement enhances efficiency in the public sector in Kenya. The target population was all the employees in the procurement department where a sample size of 60 was selected. Data was collected through questionnaires from the employees. Data collected was analyzed by use of descriptive and inferential statistics. The findings of the study established that through e-procurement implementation there would be huge benefits since time is reduced, some costs are reduced, along with a reduction of the manpower that were required to carry out the manual procurement process. The study established that NMK has a well formed structure in e-procurement but clearly needs an improved e-procurement system to improve the current situation and existing purchasing operations, strategies and policies. With an improved e-procurement system it offers several notable benefits; faster, more accurate and more effective reporting; more effective purchasing processes and functions; Improved purchasing and cost transparency; reduced manual work and mistakes; more automated processes.
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ABBREVIATIONS AND ACRONYMS

PPDA (2005) – Public Procurement and Disposal Act of year 2005

NMK – National Museum of Kenya
CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Over the past decades, public procurement has gained much attention amongst developing countries. Procurement budgets in developing countries account for about 20 per cent of government expenditure globally, many governments have embarked on reforms in their procurement systems to streamline and harmonize legal and institutional framework.
Unraveling the story of the recent uptake of e-procurement in the public sector is a study in itself.

However, there continues to be a paucity of academic interest in this area. There is a popular view that e-procurement is really about electronic market places and if one does not have an electronic market place, one is not doing e-procurement. However, there is a variety of ways in which technology is used to support procurement management and all the forms of e-procurement are used in the public sector (Angeles, and Ravi, 2007). Some fundamental confusion about the rationale for the adoption of e-procurement by government entities has given rise to a failure to perform adequate analysis in support of business case development. There is little evidence that adequate baseline information to assess the impact of e-procurement initiatives is collected. There is evidence that the benefits are over-stated and that measurement of the benefits is confused with making a case to meet political or commercial needs.

The public procurement system in Kenya has evolved to an orderly and legally regulated system governed by the PPDA, 2005. Prior to this, in Central Government it was governed by Treasury Circulars from 1969, then the Supplies Manual of 1978, before the promulgation of the Exchequer and Audit (Public Procurement Regulations 2001). The PPDA, effective as of 1st January 2007, applies to all procurement of goods, works and services, as well as the disposal of assets by public entities. The Public procurement process is a complex issue because of the multiple interests and objectives it strives to achieve simultaneously coupled by the multiple regulatory policies and bodies it has to adhere to. The objective of this study will be to look at the extent to which organizations in Kenya adhere to the public procurement and disposal regulations set with regards to Public Institutions in Kenya and still incorporate the use of e-procurement. Finally, the use of e-procurement as a vehicle for achieving a range of public
policy objects is little more than an act of blind faith in the absence of adequate evaluations of its efficacy.

1.1.1 History of National Museums of Kenya.

The National Museums of Kenya here in referred to as NMK is a state corporation established by an Act of Parliament, the National Museums and Heritage Act, 2006. NMK is a multi-disciplinary institution whose core business or services is to collect, preserve, study, document and present Kenya's past and present cultural and natural heritage. This is for the purposes of enhancing knowledge, appreciation, respect and sustainable utilisation of these resources for the benefit of Kenya and the world, for now and future. The history of the institution dates back in 1910 when a museum was established in Nairobi by the then East Africa and Uganda Natural History Society (currently the East African Natural History Society) (www.museums.or.ke, 2013). Its first site was at the present Nairobi House. The site soon became small and a larger building was put up in 1923 where the Nairobi Serena Hotel stands. It was not until 1929 that the Colonial government set aside land at the Museum Hill and construction work started at the current site. It was officially opened in September 22nd 1930 and named Coryndon Museum in honour of Sir Robert Coryndon, a sometime Governor of Kenya and a staunch supporter of Uganda Natural History Society. On the attainment of independence in 1963, it was renamed NMK. Since 1960s, NMK has expanded its services and assets to include Regional Museums, and has acquired under its jurisdiction sites and monuments which the Government has set aside as monuments of national heritage. Each of the Regional Museums has its own identity and develops its own programmes (www.museums.or.ke, 2013).
The expansion of its mandate and the staff numbers coupled with the dynamic environment in which NMK operates has yet enormous challenges for the institution. In order to keep abreast with changes in the environment in which it is operating, NMK had to redefine its operations to become more responsive to the changing circumstances. This meant moving towards developing museums as a place where people from all walks of life meet and have dialogues on various socio-economic issues. It called for NMK to develop programmes that promote cultural dynamism in order to build a sense of nationhood and belonging (www.museum.or.ke, 2013).

Of much importance is the fact that the expeditious and effective procurement of goods and services coupled with their effective utilization is very important for carrying out the NMK operations. In order to ensure this, the role of the Procurement and Supplies Department is to ensure economic, efficient and competitive procurement of goods and services. The section is expected to contribute significantly to the statement of the overall NMK mission through timely procurement and supply of goods and services at the right quantity, quality and at competitive prices in accordance with the Procurement and Disposal Act.

Consequently, the Procurement Department has been critical in sourcing for supplies of goods and services. This has enabled NMK to meet its mandate of collection, research and dissemination of information. New buildings have been completed; equipment for research acquired; vehicles for use in various functions acquired and serviced; stationery and consumables necessary for the smooth running of the organization acquired when required; premises have been fenced to secure them; and many a wide range of other services procured to support organizational development.
Hence, if the organization was to adopt a platform for e-commerce in their procurement process, then there is a surety that more benefits are going to be reaped from the platform. This is so because an e-commerce platform not only enhances quality and speed but also reduces cost of the process.

1.2 Statement of the problem

E-procurement simplifies the sourcing and purchasing process in an organization. However there is still some change resistance towards its implementation and therefore the importance of identifying whether e-procurement adds value to the procurement process, how and what the benefits of changing from traditional procurement process to electronic procurement are. In Kenya a wide range of organizations are struggling to adopt information and communication technology in their procurement functions despite its proven benefits. This study sets out to examine the effects of e-commerce on the procurement process in the public sector in Kenya.

We ought to note that most of the museums in Kenya, have remained in their original status without much improvement over the years. There is therefore, a need to upgrade these museums so that they can have repeat visitors and thus increase in revenue. One of the challenges facing the Management at the National Museums of Kenya is lack of adequate financial resources to fund the ICT activities which include procurement of equipment, products and securing of services. There is also need to train staff in the use of ICT and use of new and upcoming ICT developments as the world becomes a global ICT village.

Additionally, in the course of my study I sought to note that since the current procurement section at NMK is of age, it ought to be upgraded to a department of Procurement and Supplies in compliance with the Public Procurement and Disposal Act 2005. This could lead to a
1.3 Objectives of the study

1.3.1 General Objective

The general objective of the study was to establish the effects of e-procurement in the public sector in Kenya with National Museums of Kenya as the area of study.

1.3.2 Specific objectives

The specific objectives of the study were:

i) To find out whether e-procurement reduces cost in the public sector in Kenya;

ii) To establish if e-procurement enhances quality in the public sector in Kenya;

iii) To investigate if e-procurement reduces the lead time in the public sector in Kenya;

iv) To investigate if e-procurement enhances efficiency in the public sector in Kenya.

1.4 Research questions

The research questions were:

i) Does e-procurement reduce costs in the public sector in Kenya?

ii) Does e-procurement enhance quality in the public sector in Kenya?

iii) Does e-procurement reduce lead time in the public sector in Kenya?

iv) Does e-procurement enhance efficiency in the public sector in Kenya?
1.5 Scope of the study

The main objective of the research was to establish the effects of e-procurement in the public sector in Kenya with NMK as the case study. The study was confined to National Museums of Kenya in the month of April to June 2013. It focused on the effects of e-commerce on the procurement process in the public sector in Kenya. The target population included staff from managerial levels, top level management, middle level management and finally the support Staff. The target population was 60 respondents.

1.6 Significance of the study

According to Mitra, Laka and Abdulla, (2000), the most common forms of e-commerce in the Kenyan market are e-procurement, e-Banking and of late m-banking. Of the three, e-procurement is more user friendly; Internet based purchasing system has generated a lot of interest due to its ability in improving efficiency and transparency. Looking at the Kenya scenario, very few organisations have implemented e-procurement as a strategy to improve their services. It would therefore be of importance to identify the underlying effects with regards to e-commerce that could be impending museums in Kenya from integrating their procurement activities electronically so that they can achieve the full benefit of e-commerce especially the Nairobi National Museum.

1.7 Justification of the study.

Public procurement reforms is an interesting area that requires a careful study and research as not much research has been done in that field especially in the context of developing countries. According to Croom (2000) a growing number of organisations are adopting e-procurement as part of their management strategy to gain competitive advantage over their competitors and achieve increased profitability (Croom, 2000). Through e-procurement at the NMK, there is surety of improved sourcing for suppliers of goods and services. Through this form of e-
Hence, through the study, we were able to show the added benefits that will come with moving from the current procurement platform to an e-procurement platform.

1.8 Definition of Key Terms

E-commerce - (electronic commerce) is the buying and selling of goods and services on the Internet, especially the World Wide Web.

E-procurement - the automation of an organization's procurement processes that involves purchase and sale of supplies, work, and services through the Internet.

Procurement - methods and procedures as the guidelines for or means of acquisition of appropriate goods and/or services at the best possible cost to meet the needs of the organization in terms of quality, quantity, time, and location.

Museum - A museum is a non-profit, institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment. A lot of research also goes on in the museum.

Public Procurement – means the acquisition of goods, works, and services by public bodies using public funds and by following the laid down procedures.

Lead time – lead time is the latency (delay) between the initiation and execution of a process. For example, the lead time between the placement of an order and delivery of a new car from a
manufacturer may be anywhere from 2 weeks to 6 months. In industry, lead time reduction is an important part of lean manufacturing.

Cost – a cost is the value of money that has been used up to produce something, and hence is not available for use anymore. In business, the cost may be one of acquisition, in which case the amount of money expended to acquire it is counted as cost.

Quality – It is brought about by strict and consistent commitment to certain standards that achieve uniformity of a product in order to satisfy specific customer or user requirements.

Efficiency – Effective procurement strategies and well managed supply chains enable organizations to do just that: focus on developing and delivering products and services that exceed customer expectations.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the different aspects of e-procurement in the Public sector in Kenya. It then defines e-procurement and looks at the key elements of its implementation.

2.2 Theoretical Review

2.2.1 Principal-agent theory

Principal-agent theory deals with the relationship between two actors: a Principal and the Agent who makes decisions or takes actions on behalf of the principal (Jensen and Meckling, 1976). Reuschlein and Gregory (1979) defined an agent as a fiduciary third party who acts in the interest of a single principal or constituent group. Principal-agent relationships exist within firms (intra-organizational) and between firms (inter-organizational). It is concerned with how the principal should design the reward structure for the agent for the principal to achieve his objectives. Jensen and Meckling (1976), defined agency relationship as a contract under which one or more persons (the principal) engages another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. They argued that if both parties (principal and agent) to the relationship are utility maximizers, there is a good reason to believe that the agent will not always act in the best interest of the principal. Jensen and Meckling (1976) suggested that the principal can limit divergences from his/her interest by establishing appropriate incentives for the agent and by incurring and monitoring costs designed to limit the aberrant activities of the agent.
In applying this theory to the study of public procurement in Kenya, the principal can be considered as the government of Kenya while the agents are the procurement practitioners. The government of Kenya being the principal, delegates procurement job, functions and decisions to the agents who are the procurement practitioners at the various government entities such as the TAC.

2.2.2 The Contingency Theory

Contingency theory is a class of behavioural theory that claims that there is no best way to organize a corporation, to lead a company, or to make decisions. Instead, the optimal course of action is contingent (dependent) upon the internal and external situation. Several contingency approaches were developed concurrently in the late 1960s. Historically, contingency theory has sought to formulate broad generalizations about the formal structures that are typically associated with or best fit the use of different technologies. The perspective originated with the work of Joan Woodward (1958), who argued that technologies directly determine differences in such organizational attributes as span of control, centralization of authority, and the formalization of rules and procedures. Mitchell and Drinkwater (1982) make use of contingency theory to examine the effects of structure and environment on performance, measured using the concept of conflict. Instead (1986:23) indicates that he has used contingency theory to identify managerial actions affecting project performance. Kelly and Fleming (1982) and Brandon (1987) have attempted to take this further and build models of the procurement system. This theory is relevant to the study since the study looked into the aspects of duration of time used in tendering, ethical practices in
tendering and record management in tendering and how it influences effectiveness of tendering in a formal structure.

2.2.3 Technology Organization Environment

The Technology Organization Environment (TOE) model comes from the work of Tornatzky and Fleisher (1990) and it contains three main predictors of IT adoption: the technology context, organizational context and environmental context. This model is largely consistent with the general theory of technology diffusion developed by Rogers (1995) and it considers the organization as the reference point for the adoption process. The TOE model has been widely applied to explain the adoption process of e-Procurement. For example, Li (2003) to identify the major factors that impact the adoption of electronic procurement in Chinese manufacturing enterprises, to examine the various factors associated with the adoption of e-Procurement.
2.3 Empirical Review

2.3.1 Definition of Electronic Procurement

E-Procurement has shown to be a good start point of the overall e-Commerce strategy, since procurement plays a critical role among the members of the supply chain. E-Procurement can be seen as part of an automated purchasing system. It is designed to facilitate the acquisition of goods by a commercial or government organization over the Internet. Buyers may log on to the system to view supplier catalogues, and to place orders (Jackson et al., 2003).

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E-Procurement can be defined as a process which allows any designated user to requisition a product or service through a web interface, which then generates a purchase order to send to a supplier. According to the Chartered Institute of Purchasing & Supply e-Procurement is about using the Internet to operate the transactional aspects of requisitioning, authorizing, ordering, receipting and payment processes for the required services or products (CIPS, 2009).

This study will determine that these definitions are too narrow since they disregarded several important activities such as the aggregation of orders, monitoring of the supplier’s performance,
managing and mitigating supplier-connected risks or contract management. Thus, a better
definition of e-procurement is provided by (CIPS, 1999).

He considers e-procurement as the whole process of acquisition from third parties over the internet; this process spans the whole life cycle from the initial concept and definition of organization needs to the end of the useful life of an asset or end of a services contract.

2.3.2 Organizational Factors and E-procurement Implementation

The characteristics in the organizational context seem to be the primary focus of many studies in the context of business organizations. Top management support, firm's size, skills and knowledge and organization policy are considered to be factors that influence firms' willingness to adopt E-procurement. Harris found top management support to be one of the best predictors of organizational adoption of IS innovations (Harris, 2002). Top management can stimulate change by communicating and reinforcing values through an articulated vision for the organization. Top management support is critical for creating a supportive climate for the adoption of new technologies.

Budgetary allocation is defined as "the availability of the needed budgets for adoption of e-procurement" instead, economic costs, lack of technical knowledge and organization policy are perceived as three of the most important factors that hinder Information System (IS) growth in many organizations. Budgetary allocation express an organization's capital available for IS investment. However, the typical argument is that larger firms have a greater need, resources, skills and experience and the ability to survive failures than smaller firms. It can be argued that larger firms are more likely to adopt E-procurement System (EPS) than smaller firms.
2.1.3 Purchasing based on electronic technology

Increasing competition, more demanding customer needs have inevitably led to a situation where traditional business models are not able to fill the needs of customers and institutions anymore. Traditional purchasing in today's B2B environment is an ineffective and expensive way to buy goods and services. Angeles & Ravi (2007) state that purchasing is one of the biggest expenses in institutions' overall costs. Especially the purchasing of non-production goods and services which is the biggest single expense item for an enterprise (Attaran & Attaran, 2002). Using electronic technology in purchasing operations makes it possible to gain numerous benefits to institutions' business processes and internal functions.

E-procurement is an important part of e-commerce. E-commerce is able to create massive new wealth and change the traditional ways of business to a more modern and effective direction. The challenge is to recognize all important possibilities and adopt tools of e-procurement, and eliminate those factors that are not key elements for success (Knudsen, 2003).

E-procurement only automates procurement (Angles, 2007). Institutions are using different Internet trading exchanges (ITE) to automate and streamline their procurement processes. Procurement is nowadays more than a traditional support function; it is a tool for creating value for an institution and customer. This means that institutions must define their procurement strategy and goals. According to Angeles (2007) procurement strategies must be tightly linked with the institution's competitive strategies. Angeles (2007) states: "By developing a procurement strategy which focuses on the character of its competitive strength, a firm can
enhance its market position.” With effective procurement strategy, it is possible for employees to reduce paperwork and fully concentrate on their jobs.

It is important that an institution knows what to do. This means that e-procurement goals must be defined. Rabideau & Robinson (2001, 338) introduced four typical goals of e-procurement:

i) Fully automated selection and purchasing of goods.

ii) A systematic organization-wide cost reduction.

iii) Fast and accurate reports to organization-wide purchasing patterns.

iv) Eliminating the possibility of unauthorized workers to purchase goods and services.

Fully automated selection and purchasing of goods is the base goal of e-procurement. Through this goal companies are able to achieve a systematic organization-wide cost reduction. Fast and accurate reports make it possible to manage e-procurement and its processes. The fourth goal is often the most challenging goal for companies to achieve. The risk that unauthorized workers are able to purchase goods and services is very high in many organizations of different industries. Procurement cannot be effective if it is not organized, and if employees are able to purchase whatever they want. When organizations are adopting an e-procurement system they should establish a buying center. According to Garrido et al. (2008) the buying center consists of those employees who are in some way connected to the purchasing process. When organizations have a buying center and buyers, they will eliminate the possibility of unauthorized employees to purchase materials. The most important thing is to understand what kind of an e-procurement strategy, goals and software solution are suitable for organization's own activities and its processes. When an institution has determined its e-procurement strategy and defined its goals, it is ready for e-procurement. Without these preparations, implementation of electronic
procurement is not possible. Goals and strategies can vary among different organizations and industries in a state.

2.3.4 Electronic procurement systems

Every organization and their needs are different. This is the reason why procurement cycles vary so much among different organizations. A basic procurement cycle begins from identifying the need, and ends to the phase where identified needs are satisfied. (Baily et al. 2005, 370) A common procurement process is shown in figure 2.1

![Procurement Process Diagram](image)

Figure 2.2 A procurement process by Baily et al. (2005)

2.3.5 Technological Factors and E-procurement Implementation

In the existing literature, technological resources have been consistently identified as an important factor for successful information systems adoption. Hence, this study puts forward technology as an adoption driver, which according to Gable and others (2008), encompasses IT infrastructure, information security risks and rapid changes of technology. Gable argues that
there are very few studies that have examined the impact of technological characteristics in the context of manufacturing businesses. IT infrastructure meant the hardware, software, and all, the related network which enables both forward and backward linkages of the IT systems. Garrido found IT infrastructure to be an important determinant of IS adoption. The adoption of new technologies can bring significant changes to the work practices of businesses and resistance to change is a normal organizational reaction. Therefore, it is important, especially for businesses, that the changes are compatible with its infrastructure, values and beliefs.

Information security risk may be defined as any possible threat that uses vulnerability in the system of an organization to cause disruption to the organizational routines and processes in some or the other form. Information security risks may also be classified as threats that lead to loss of any form to an individual or an organization. Such losses may include loss of privacy, identity theft, financial loss, negative impact on customer relations, loss or damage of confidential data or information, or a loss in profitability. Information security risk is a big challenge for any company or organization that deals with permanent or temporary storage or transfer of information. The complexity of the Information security risk management creates greater uncertainty for successful e-procurement implementation and therefore increases the risk in the adoption decision. This factor has been perceived to be negatively associated with adoption of IS innovations. The challenge for many organizations today is how to adopt an IT system that can withstand these rapid and revolutionary changes. Following this discussion we ought to note that Technological factors positively and significantly do influence e-procurement implementation.
2.3.6 Understanding the Benefits of e-Procurement Process

Through e-procurement, the buyer achieves the target set out during the sourcing project which leads to lower transaction and processing costs and increases efficiency, for example greater speed in processing services and goods and reduced spending due to increased choices and competition.

One of the key themes in the existing literature on e-procurement has been concerned with the economies of information (Silver & Wurster, 2000), in particular the realization of cost improvements achieved as a result of transactional and process efficiencies. These efficiencies arise through greater opportunity for lower prices from suppliers; from the reduction in process activity needed to complete the total “request to payment” process; through the increased speed of the procurement process and better decision making as a result of improved management information. The lure of cost efficiencies has been a major catalyst for the adoption of e-procurement (Croom, 2000) and it has been widely contended in this body of literature that e-procurement implementation will have considerable implications for the design of the procurement process.

When e-procurement is combined with process re-engineering it can greatly reduce transactional costs. In the traditional procurement process, there is a large freight of documents such as requisitions, purchase orders and invoices which get prepared and transported within an organization and across organizations, administrative effort put into preparing these documents can be greatly reduced via e-procurement. When e-procurement is done, efficiency is obtained not just via reduced printing and transportation costs, but also via reduced process cycle time. E-
procurement also tends to change the role of buyers in the purchasing department. By removing administrative tasks such as placing orders and reconciling deliveries and invoices with purchase orders, buyers can spend more time on value-adding activities. Such activities might include spending more time with key suppliers to improve product delivery and costs or analysis and control of purchasing behavior, which can be named as contract management.

Another benefit of e-procurement is to obtain high quality data on purchasing activities, such as what has been bought, when, from which supplier and how much. Equipped with this data, organizations are well positioned to negotiate better frame agreements with suppliers, to consolidate, spend and reduce sub optimization. For instance, in the case of an organization that provides a Procurement Data Warehouse, where information regarding all current suppliers, spent figures and frame agreements are available is a great advantage to start a sourcing project knowing that the information necessary to identify, spend and possible savings are available and are accurate. E-procurement also enhances transparency and accountability in the purchasing process, making it a secure and transparent process by limiting maverick buying, which is a great advantage for both procuring and procured organizations.

A growing number of organizations are adopting e-procurement as part of their management strategy to gain competitive advantage over their competitors and achieve increased profitability. One way of achieving this is by centralizing functions such as procurement and logistics in a single function as electronic systems of procurement do not have geographical, departmental and time barriers. Kalakota, Tapscott and Robinson notes that adoption of e-procurement “allows procurement activities 24 hours a day, 7 days a week, and 365 days a year”. As a centralized department can oversee all procurement activities and different offices or departments can access the same documentation when required, this gives a distinct advantage over the much slower process of having to post documentation between offices or departments. This improvement in competitiveness is further highlighted by those who argue that gaining competitive advantage, reducing procurement costs, and increased efficiency and profitability are seen as some of the
The most important drivers and benefits of e-procurement adoption. Rankin, Chen and Christian show that e-procurement results in increased productivity and greater market access.

2.3.7 Barriers and Risks of e-procurement

Though e-procurement has a lot of benefits to the organizations involved, there are some issues to be acknowledged and taken care of. Edie et al (2007) identified some of the greatest risks related to products and services procured through e-procurement in the construction field; they are in order of importance: supplier relationships, technology and legal control, cost/benefit concerns, organizational skills and culture. The legal, technical and organizational barriers that may result from procurement online are one of the greatest challenges for policy makers. Despite the proven benefits of using electronic means in procurement, Edie et al (2007) showed that only 48% of respondents indicated that they were able to conduct e-commerce effectively. This might be an indication that those barriers are really impacting the good results and benefits for the implementation of e-procurement.
2.4 Conceptual Framework

![Conceptual Framework Diagram]

Figure 2.3 Conceptual Framework

2.5 Summary of Variables

Costs

In business, cost is usually a monetary valuation of (1) effort, (2) material, (3) resources, (4) time and utilities consumed, (5) risks incurred, and (6) opportunity forgone in production and delivery of a good or service. All expenses are costs, but not all costs (such as those incurred in acquisition of an income-generating asset) are expenses. In business, the cost may be one of acquisition, in which case the amount of money expended to acquire it is counted as cost. In this case, money is the input that is gone in order to acquire the thing. This acquisition cost may be...
the sum of the cost of production as incurred by the original producer, and further costs of
transactions as incurred by the acquiree over and above the price paid to the producer. Usually, the
price also includes a mark-up for profit over the cost of production.

Quality - ISO 8402-1986 standard defines quality as the totality of features and characteristics of
a product or service that bear its ability to satisfy stated or implied needs. For instance, if an
automobile company finds a defect in one of their cars and makes a product recall, customer
satisfaction and therefore production will decrease because trust will be lost.

Lead time - A more conventional definition of lead time in the supply chain management realm
is the time from the moment the customer places an order (the moment you learn of the
requirement) to the moment it is received by the customer. In the absence of finished goods or
intermediate (work in process) inventory, it is the time it takes to actually manufacture the order
without any inventory other than raw materials. The amount of time that elapses between when a
process starts and when it is completed. Lead time is examined closely in manufacturing, supply
chain management and project management, as companies want to reduce the amount of time it
takes to deliver products to the market. In business, lead time minimization is generally
preferred.
Efficiency – increasing global competition means that organizations in both the public and private sectors need to concentrate on what they do best. Effective procurement strategies and well-managed supply chains enable organizations to do just that: focus on developing and delivering products and services that exceed customer expectations. We have been contributing to organizations across the public and private sectors to develop effectiveness in the management of costs and services, raising the recognition of procurement as a driver of efficiency and change.

We work with our clients to achieve measurable changes in performance.

2.6 Research Gap

The literature review reviewed and discussed above, which is focused on the public sector, identifies a number of potential effects that might affect the adoption of e-procurement within the public procurement. However, it has become apparent from this review, that there are a number of significant gaps in the current literature in relation to the uptake along with the adoption of e-procurement. More significantly, the following important gaps have been identified; Current studies of e-procurement have tended to adopt rather narrow definitions and conceptualizations of e-procurement; where studies have been conducted on adoption of e-procurement they tend to be more private sector-oriented, focusing on a restricted set of adoption factors and a narrow conceptualization of e-procurement. In particular the public sector ought to be examined and explicitly addressed.
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter describes the research design and population of the study, the type of data and the procedures that were used in collecting that data. It further discussed the methods that presented and analyzed the data that was collected.

3.2 Research Design

Zikmund (2003) points out that research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. A survey research design was employed in this study. The survey research design is a very valuable tool for assessing opinions and trends. Consequently, the study undertook a descriptive design method which sought to answer the questions here, what, why, when and which. The design systematically described a situation or area of interest factually or accurately. It specified research methods to be used, sample size measurement and data analysis methods. Descriptive design also enables an in-depth analysis of the effects of e-commerce on the procurement process in the public sector in Kenya. Cooper and Schindler (2003) state that in descriptive research design the problem is structured and well understood, it portrays an accurate profile of persons, events or situations.

3.3 Target Population and Sampling design

Saunders et al. (2003), described a population as the total collection of elements about which one wishes to make inferences (Saunders, Lewis & Thornhill, 2003). The target population refers to the entire group of individuals or objects to which a researcher is interested in generalizing the conclusions. The study population is the accessible population in which the researcher can apply
the conclusions. For purposes of this study the target population consisted of all the employees in
the procurement department and the sample size consisted of sixty (60) employees.

Stratified random sampling design was used in the study. Kombo and Tromps (2006) points out
that it involves dividing ones population into homogenous sub groups and then taking a simple
random sample in each sub group. The stratified random sampling method is best suited in this
research because the population consisted of different people who work for the organization on
various levels in the department. This method was appropriate because it was able to represent
not only the overall population but also the key sub groups at the populations. The method was
best because it minimized biasness. The general procedure for taking a stratified sample was to
stratify population, defining a number of separate partitions using sample size, and then the
results would be combined to obtain the required stratified sample. The sample was therefore
drawn from each stratum from which respondents were selected.

Table 3.1 Sample size of the study

<table>
<thead>
<tr>
<th>Category</th>
<th>Sample size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top management</td>
<td>15</td>
<td>25%</td>
</tr>
<tr>
<td>Middle manage-</td>
<td>17</td>
<td>28%</td>
</tr>
<tr>
<td>Lower manage-</td>
<td>28</td>
<td>47%</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100%</td>
</tr>
</tbody>
</table>
3.4 Data collection Instruments and Procedures

Two types of data collection methods were used: primary data collection and secondary data collection.

Primary data is firsthand information which includes raw data collected from the employees of NMK. This was done through randomly distributing questionnaires, interviewing, and observing. According to Mathew et al. (1994), in a qualitative research, the researcher attempts to capture data on the perception of local actors “from the inside” through a process of deep attention to empathetic understanding and of suspending preconceptions about the topic under discussion. The data captured is not sophisticated; in fact, it was presented in its basic form. Secondary data collection involved information from sources such as books, newsletters, magazines, government circulation and the internet. This was sourced and selected under the basis of their relevance and contribution towards the study.

The questionnaire comprised both open ended and close ended questions. The questionnaire contained both closed and open-ended questions in almost equal proportions. The closed questions were restrictive so as to facilitate the coding exercise while the open-ended questions sought to consider answers and opinions and give freedom to the respondents. This helped in obtaining honest answers because the respondents felt challenged to exercise their mind and participate fully in the exercise and this made them gain confidence. Answers to the open-ended questions also acted as a check on the closed ones to ensure that there is consistency on the part of the respondent.

Research instruments to be used included questionnaires, direct observation and interviews. Questionnaires were used due to several advantages; they have a high degree of assuming anonymity of respondents, respondents take time in computing them they are easy to interpret.
and analyze. Observation was used to get information that can be best got through researching a unit by looking directly at its aspects. Research instrument were pre-tested to increase the validity and reliability of the responses. Mugenda and Mugenda (1999) suggest that pre-testing allows errors to be discovered as well as acting as a tool for training a research team. Expert validity views and suggestions of the supervisors were initially incorporated in the questionnaire and then Pre-testing was done on 3 respondents however these respondents were not included in the study sample. As a result of the pilot test, changes in word selection and instructions were made to the questionnaire.

3.5 Data Analysis

Both qualitative and quantitative data analysis methods were used. Qualitative research provided insights and understanding while quantitative research generalized these insights to a population pattern. Qualitative research is a generic term for investigative methodologies described as a filed or participant observer research. It emphasizes the importance of looking at variables in the natural setting in which they are found (Mathew et al. 1994). In summary qualitative analysis was used to analyze and present results of open ended questions in the questionnaire. This was done through capturing the common answers in the open ended questions based on their commonality. Qualitative research attempts to gather data by objective methods to provide information about relations comparisons and predictions. It is used to analyze and present results of the closed ended questions in the questionnaire. Descriptive statistics such as frequency distribution tables, percentages, and measures of central tendencies e.g. mean, mode, and median were used. This is because it is usually easy to interpret the information and it’s usually concise and to the point (Mathew, 1994).
CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter reports the major findings of the study which were collected using questionnaires that targeted the employees of NMK. Data was analyzed separately for each set of questionnaires for each authority and presented in the form of frequency distribution tables.

4.2 Analysis and Interpretation

4.2.1 Gender of Respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38</td>
<td>63%</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>37%</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100%</td>
</tr>
</tbody>
</table>
Figure 4.1 Gender (Source: Author 2013)

Table 4.1 and Figure 4.1 shows that 63% of the respondents were male and 37% female. This indicates majority of officers working at NMK were male. Following this we ought to note that it is significant that NMK increases the number of women to achieve gender equality.

Number of Respondents

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing and Supplies Department Manages</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Senior Staff</td>
<td>23</td>
<td>38</td>
</tr>
<tr>
<td>Junior Staff</td>
<td>35</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Author, 2013)

Table 4.3 shows that 59% of the respondents who responded were the junior staff of NMK who perform most of the tasks, 38% were the senior staff who supervise work done, 3% were the department mananges of the procurement department. This indicates that most of the respondents that responded to the questionnaire were those that perform the most tasks in the e-procurement process of the organization.
4.9.3 Level of Education of Employees

Table 4.3 Level of Education of Employees

<table>
<thead>
<tr>
<th>Current Level Of Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>27</td>
<td>45</td>
</tr>
<tr>
<td>Diploma</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Secondary</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source; Author, 2013)

Table 4.3 shows that 8% of the respondents had attained a masters, 45% a Bachelor’s degree, 22% a diploma and 25% had secondary education. This shows majority of the employees had attained some level of education although there was need for the organization to encourage or develop its staff to grow academically and increase their capacity from the current levels.

Employees involved in e-procurement Process

Table 4.4 Employees involved in e-procurement Process

<table>
<thead>
<tr>
<th>Are You Directly Or Indirectly Involved</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>48</td>
<td>80</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 4.4 shows that 80% of the respondents are directly or indirectly involved in the e-procurement process and only 20% are not. This therefore means that, majority of the respondents were knowledgeable of the e-procurement processes and their responses are valid since they are the technical people in e-procuring process.

4.3 Value added in procurement process.

Table 4.5 Reduction of cost

<table>
<thead>
<tr>
<th>Does e-procurement reduce cost in procurement process</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>48</td>
<td>80</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Author, 2013)

Table 4.5 indicates that 80% of the respondents felt that through e-procurement process, NMK was able to make major savings that is through reduction of cost in the process, while only 20% felt that e-procurement did not aid in reduction of cost in the procurement process.
4.2.4 Duration taken in e-procurement Process

From the respondents, 78% of the procurement process takes around one month in e-procurement while the usual recommendation from the Government of Kenya is 1-3 months for a procurement process, 12% of respondents indicated that it takes 1-3 months and 10% were not sure of the process of e-procurement. This indicates that, majority of the respondents feel that procurement process at NMK takes one month as compared to the 1 to 3 months which is within the Government of Kenya's policy on tendering that, the process takes maximum 3 months. Hence this is an indication that through e-procurement NMK is able to engage in faster procurement without delaying much. Notably, those respondents who were not sure were believed to be the ones who were not directly or indirectly involved in tendering process.

4.2.5 Use of ICT in e-Procurement

Table 4.6 Computer Availability

<table>
<thead>
<tr>
<th>Are These Computers In the Office</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>54</td>
<td>90</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>
Figure 4.2 Computers Availability (Source: Author, 2013)

Table 4.6 and Figure 4.3 shows that 90% of the employees have computers in their office while only 10% did not have. This means that the agency has adequate computers to be used in e-procurement process. This indicates that engaging in e-procurement is not a problem for NMK.

Knowledge on ICT

Table 4.7 Knowledge on ICT

<table>
<thead>
<tr>
<th>Number of employees with ICT knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Conversant</td>
<td>28</td>
<td>46</td>
</tr>
<tr>
<td>Average Knowledge</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>No knowledge</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Author, 2013)
Table 4.7 shows 55% of employees were averagely conversant with information technology, while 46% were completely knowledgeable about information technology with only 4% lacking knowledge. This is an indication that the level of knowledge of the employees as regards ICT will work towards achieving efficient e-procurement at NMK.

4.2.6 Extent to which ICT is applied in the procurement process

Table 4.8 Extent of ICT application at NMK in procurement

<table>
<thead>
<tr>
<th>In ICT applied in all stages of procurement</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>42</td>
<td>70</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>Neutral</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

![Bar Chart showing the extent of ICT application at NMK in procurement](chart.png)
Table 4.8 and figure 4.3 indicates that 70% of the respondents strongly felt that ICT was used well in all the stages of procurement. This gives an indication that ICT is used for tendering process and the effectiveness of the tendering process can be attributed to the use of ICT which is more error-free and objective.

4.9 Level of e-procurement adoption

Table 4.9 Level of e-procurement adoption

<table>
<thead>
<tr>
<th>Has NMK made the full adoption of e-procurement</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>41</td>
<td>69</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Author, 2013)

Table 4.9 indicates that 31% of the respondents felt that NMK had not fully adopted e-procurement while 69% stated that the organization had already adopted an e-procurement platform. Therefore it can said that NMK has implemented some form of e-procurement in their procurement activities.

Forms of e-procurement used in the e-procurement activities
The findings indicate that 33% of the respondents use telephone as a way of communication while majority of the respondents, i.e. 67% use e-mails as a way of communicating in the process of e-procurement. The results indicate that majority of the respondents were oriented towards information technology and implicitly are aware of the advantages of the information communication technology.

Conversely, from the study we could establish that 15% of the respondents use mails to issue local purchase orders to their suppliers, 65% used e-mail while 15% of the respondents admitted to using fax to issue purchase orders. Thus, the results show that a majority of the respondents at NMK were in touch with information technology and are more likely to improve the implementation of e-procurement systems in their organization.

Organizational factors and implementation of e-procurement

One of the study objectives was to investigate the effect of organizational factors on the implementation of e-procurement at NMK. To address this effectively, the organizational factors existent were established and thereafter their influence on e-procurement implementation examined. The respondents were asked to identify from the following organizational factors; department size, budgetary allocation, top management support, skills and knowledge and others which ones affect the implementation of e-procurement in the organization. The findings were as follows: 17% of the respondents identified department size, 30% budgetary allocation, 13% top management support, 27% skills and knowledge while 13% depended on other factors. The findings indicate that budgetary allocation has the most effect on implementation of e-
procurement at NMK with a 30% effect. Conversely, it however shows business size is not significantly related to IS innovation adoption.

### 4.2.8 Improved quality through e-procurement

#### Table 4.18 Effectiveness of procurement Process

<table>
<thead>
<tr>
<th>Procurement Process Is Effective through e-procurement</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>44</td>
<td>73</td>
</tr>
<tr>
<td>Agree</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Neutral</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 4.30 and figure 4.3 shows that 73% of the respondents strongly agreed that the procurement process is effective through e-procurement and 13% agreed while only 7% felt the process is not effective and 8% were neutral. Through this, there is an implication that the process of e-procurement enhances effectiveness at NMK which is one of the objectives that the organization aims to meet.
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The overall aim of this research was to provide an understanding of the effects of e-Procurement in public institutions in Kenya. To achieve this, it was necessary to understand e-procurement, their role in supply chains and the key factors affecting government institutions. The next section will revisit the research objectives, summarize the findings and offer conclusions based on these findings. Proposals for future research will be discussed, in terms of how to progress this study.

5.2 Summary of findings

The study established a linear relationship between technological factors and e-procurement implementation in the following areas: IT infrastructure, rapid change of technologies and information security risk. Respondents across were in agreement that through the implementation of ICT in the procurement process there would be huge benefits since time is reduced, some costs are reduced, along with a reduction of the manpower that may be required to carry out the manual procurement process.

Moreover, from the study there is the issue of reduction in the time that is taken in processing of the tenders. This is a benefit to that case being studied since the level of implementing set goals is taken to the next level where they do not have to sit around on one thing for a long time engaging in the similar thing. This also ensures that tasks are contracted to the right persons who show that they have the capability via what they present.

Consequently, the study established a linear relationship between organizational factors and e-procurement implementation in the following areas: firm size, budgetary allocation, top
management support, and skills and knowledge. This indicates that the right organizational structure with the best platform that gives e-procurement space will be a great manner benefit. This is because without a good structure from the leaders then there is no survey of any progress on the organization set goals.

The study established that e-procurement adds value to the organization through cutting down of costs that were previously seen in the process of procurement. This could be shown through reduction in printing papers, advertising costs, reduction in manpower among other things since e-procurement only needs a computer, computer literate and access to the internet for the initiation of the process.

The study established that environmental factors are the most linear related with the e-procurement implementation in the following areas; supplier support /commitment, government policy and regulations, competitor's actions (usage of technology) and external IS support. The study also found that government policy and regulations play key role in the implementation of E-procurement systems. The study further established a linear relation between technological factors and e-procurement implementation in the following areas; IT infrastructure, rapid change of technologies and information security risk. Respondents across were in agreement that information security risk played a key role in the implementation of E-procurement.

5.3 Conclusion

The case company has a well

famed structure in e-procurement but clearly needs an e-procurement system to improve the current situation and existing purchasing operations, strategies and policies. With an improved e-procurement system it offers several notable
and cost transparency; reduced manual work and mistakes; more automated processes.

5.4 Recommendations

Based on the study findings the following recommendations are made. Lack of top management support, limited skills and knowledge of IT and limited funds were some the issues that came out as working against the embracement of e-government by the NMK. Top management support, training and re-skilling of employees together with budgetary allocation issues should be emphasized. Close attention of these issues is likely to improve the level on intake of e-government.

On lack of vendors support and inadequate government policy to support the use of ICT in organizations the study recommends the formation of partnership with vendors to facilitate integration among trading partners and the government should form a policy to support the use of ICT in businesses. These may increase the speed and the level of e-government implementation in Kenya.

On limited IT infrastructure, instability of IT systems and information security risks concerns, the study recommends that the government should direct efforts towards improving the IT infrastructure coverage such as fiber optics, telephone lines, and satellite disks. The IT systems should be made flexible enough to adapt to changes in technologies and the users should be trained on how to secure their systems so that their level of trust in ICT can be improved.

5.5 Study Limitation

Some of the factors identified in the literature review were related to the adoption of e-

Procurement in a general way and not specifically related to the supplier adoption on larger
5.6 Suggestions for Further Studies

Future studies are suggested on the following areas to gain specific factors' effect on e-procurement implementations for insight analysis and the implication of e-procurement on organization and procurement performance. Implementing e-Procurement initiatives requires the public sector agencies to have the organizational and management ability and flexibility to learn and share the lessons in regards to the new systems and technology and adjust themselves to new procurement practices and processes in a timely fashion. Hence it is believed that such a study will yield several insights and better understanding of the organizational learning factors that impact the level of user and supplier satisfaction leading to e-Procurement implementation success.
REFERENCES


Edie et al. (2007) – Barriers to e-procurement – Itcon Vol. 12


Mugenda and mugenda (1999) research methods 2nd edition Africa centre for technical Studies,

APPENDICES

Appendix I: Letter to the Respondents

Dear Sir/Madam,

RE: ACADEMIC RESEARCH.

I am a student at the Mt. Kenya University Pursuing a Diploma Purchasing and Supplies management. I am conducting an academic research on the effects of e-procurement in public sector/institutions in Kenya.

I kindly request you for your assistance in responding honestly to the interview questions and to all the items in the questionnaire. All information given will be treated confidentially and will be used only for the intended research purpose.

Looking forward to your co-operation.

LILLIAN C. MAHELI
P.O BOX 40658 - 00100
NAIROBI, KENYA
Appendix II: Questionnaire

Part I

A. Personal Details: (Tick in the box)

1. Name (optional) ........................................................................................................

Age

18-30

31-50

51-65

66 & above

Post held (optional) ........................................................................................................

2. Marital status:

Single

Married

Separated

Widowed

3. Gender

Female [ ]

Male [ ]

4. Education Level (please tick in the box)

Your level of education and training

i. Secondary level

[ ]
ii. Diploma level

iii. University

iv. Masters

6. What is your position in the purchasing department? ________________________________

6. Are you involved in e-procurement process?

Yes

No

If yes please explain

________________________________________________________________________

7. Does the process of e-procurement increase efficiency in the organization, as compared to the manual procurement process?

Yes

No

If yes kindly explain

________________________________________________________________________
8. Does the process of e-procurement reduce the time taken in the procurement process?

Please Explain

9. To what extent has the organization adopted e-procurement in its processes?

10. Does e-procurement improve the quality of procurement services that the organization provides?

Yes

No

If yes please explain. ________________________________

______________________________

11. Does e-procurement lead to cutting of costs in procuring compared to the manual process of procuring?


13. What is your level of knowledge in the ICT field as concerned with the processes of e-procurement?

If Yes, kindly explain.

14. To what extent do the managers in the organization support the procurement department and in what ways?

15. Do the environmental factors affect the organization’s procurement process? If Yes, in what ways?
# Schedule of Research Activities

<table>
<thead>
<tr>
<th>Time (weeks) (Year 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
</tr>
<tr>
<td>1. Proposal Writing</td>
</tr>
<tr>
<td>2. Pilot study</td>
</tr>
<tr>
<td>3. Collecting data</td>
</tr>
<tr>
<td>4. Analyzing data</td>
</tr>
<tr>
<td>5. Compiling the final copy</td>
</tr>
<tr>
<td>6. Presenting Report</td>
</tr>
</tbody>
</table>

Appendix III: Study Time Frame

Table III Schedule of Research Activities
### Table IV: Budget

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT COST</th>
<th>AMOUNT IN KSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationery</td>
<td>1 ream of paper</td>
<td>360</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>Duplicating</td>
<td>340</td>
<td>340</td>
</tr>
<tr>
<td>Travel and meals</td>
<td>Research</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Text books</td>
<td>Proposal and Thesis: Writing (Kombo and Tromp)</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Contingencies</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4,700</td>
<td>4,700</td>
</tr>
</tbody>
</table>