

**EFFECTS OF E-PROCUREMENT AND PROCUREMENT PERFORMANCE OF
PUBLIC ENTITIES IN UGANDA, THE CASE OF NATIONAL INFORMATION
TECHNOLOGY AUTHORITY UGANDA, LOGOGO, KAMPALA DISTRICT**

**BY
KAUGU YEKOSOFATI
1163-05084-06405**

**A RESEARCH REPORT SUBMITTED TO THE COLLEGE OF ECONOMICS AND
MANAGEMENT IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE AWARD OF A BACHELORS DEGREE IN SUPPLY AND
PROCUREMENT MANAGEMENT OF KAMPALA
INTERNATIONAL UNIVERSITY**

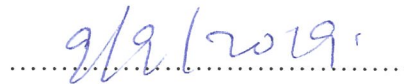
AUGUST, 2019

DECLARATION

I declare that this dissertation is as a result of my own effort and has never been published or submitted in any institution of learning for any award. Where it is indebted to the works of other authors, due acknowledgement has been made to that effect

SIGNATURE





KAUGU YEKOSOFATI

DATE

1163-05084-06405

DEDICATION

I dedicate this dissertation to my family members for all they have done for me, their blessings, guidance, wisdom, knowledge, favors and endless blessings throughout my life and this far.

ACKNOWLEDGEMENT

First and foremost am grateful to the Almighty God for the love, courage, wisdom and strength provided to me through all my curricular and life achievements.

I am deeply indebted to my supervisor Mr. Ayasi Asadi for his overwhelming support and supervision in the compilation of this research.

Lastly but not least, I would love to acknowledge all my former classmates who have been of great importance to the conclusion of this research.

TABLE OF CONTENTS

DECLARATION.....	i
APPROVAL.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vii
LIST OF ABBREVIATIONS.....	viii
ABSTRACT.....	ix
 CHAPTER ONE.....	 1
INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Background to the study.....	1
1.1.1 Historical Background.....	1
1.1.2 Theoretical perspective.....	2
1.1.3 Conceptual perspective.....	2
1.1.4 Contextual perspective.....	3
1.2 Statement of the problem.....	3
1.3 Purpose of the study.....	4
1.4 Objectives of the study.....	4
1.5 Research questions.....	4
1.6 Research hypothesis.....	4
1.7 Scope of the Study.....	5
1.7.1 Geographical Scope.....	5
1.7.2 Content Scope.....	5
1.7.3 Time Scope.....	5
1.8 Significance of the study.....	5
1.9 Operational Definitions of key terms.....	6
 CHAPTER TWO.....	 7
LITERATURE REVIEW.....	7
2.0 Introduction.....	7
2.1 Theoretical Review.....	7
2.2 Conceptual framework.....	8
2.3 Related literature.....	8
2.3.1 Level of e-procurement.....	8
2.3.1.1 E-sourcing.....	8
2.3.1.2 E-tendering.....	10
2.3.1.3 E-contracting.....	11
2.3.2 Procurement performance.....	13
2.3.3 Relationship between e-procurement and procurement performance.....	15
2.4 Research gaps.....	16
 CHAPTER THREE.....	 18
METHODOLOGY.....	18

3.0 Introduction.....	18
3.1 Research Design.....	18
3.2 Study Population.....	18
3.3 Sample Size.....	18
3.4 Sampling techniques.....	19
3.5 Data Collection instruments.....	20
3.5.1 Questionnaire.....	20
3.5.2 Interview guide.....	20
3.6 Validity and Reliability of the Instruments.....	20
3.6.1 Validity of Instrument.....	20
3.6.2 Reliability of Instrument.....	21
3.7 Data Analysis.....	21
3.8 Ethical considerations.....	21
3.9 Limitations of the study.....	22
CHAPTER FOUR.....	23
DATA PRESENTATION, ANALYSIS AND INTERPRETATION.....	23
4.0 Introduction.....	23
4.1 Demographic characteristics of the respondents.....	23
4.2 Electronic procurement.....	24
4.4 Objective three; Relationship between e-procurement and procurement performance in National Information Technology Authority-Uganda.....	28
CHAPTER FIVE.....	30
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS.....	30
5.0 Introduction.....	30
5.1 Discussions.....	30
5.1.1 Objective one; level of e-procurement.....	30
5.1.2 Objective two; level of procurement performance.....	31
5.1.3 Objective three; relationship between e-procurement and procurement performance.....	31
5.2 Conclusions.....	32
5.2.1 Objective one; level of electronic procurement.....	32
5.2.2 Objective two; level of procurement performance.....	32
5.2.3 Objective three.....	32
5.3Recommendation.....	33
5.4 Areas for further research.....	33
REFERENCES.....	34
APPENDIX A.....	36
INTERVIEW GUIDE.....	36
QUESTIONNAIRE TO RESPONDENTS.....	36
SECTION C: QUESTIONNAIRE TO DETERMINE PROCUREMENT PERFORMANCE.....	38

LIST OF TABLES

Table 1:Population and sample size.....	19
Table 4.1: Profile of respondents.....	23
4.3 Procurement performance.....	26
Table 4.4: Significant relationship between E-procurement and procurement performance in National Information Technology Authority-Uganda.....	28
Table 4.3: Procurement performance.....	27
Table 4.2: Level of electronic procurement.....	25

LIST OF ABBREVIATIONS

PE.....	Public Enterprises
PPDA.....	Public Procurement and Disposal of Public Assets Act
PDE.....	Procuring and Disposing Entity
IGG.....	Inspector General of Government
USAID.....	United States Agency on International Development
GOC.....	Government Owned Corporation
SPSS	Scientific Package for Social Scientists

ABSTRACT

The study sought to assess the impact of e-procurement on procurement performance in National Information Technology Authority Uganda. It was guided by three specific objectives that included (i) to examine the level of e-procurement in National Information Technology Authority Uganda, (ii) to establish the level of procurement performance in National Information Technology Authority Uganda, and (iii) to assess the relationship between e-procurement and procurement performance in National Information Technology Authority Uganda. This research employed cross-sectional, survey and descriptive research design to describe the variables and the questionnaire and interview guide were used as the research instruments, it used a population of 150 and a sample size of 109 respondents. Descriptive statistics were used in this study included frequencies, means and regression analysis on variables. The findings connoted the following: The findings indicated that level of electronic procurement in National Information Technology Authority Uganda was rated satisfactory, therefore this implies that that electronic procurement significantly affects procurement performance, the level of procurement performance was rated high in National Information Technology Authority Uganda, and finally electronic procurement has a significant correlation on procurement performance in National Information Technology Authority-Uganda, this was so because electronic procurement had a significant relationship on procurement performance. The conclusions were that; National Information Technology Authority Uganda use e-procurement for contracts to achieve benefits such as increased efficiency and cost savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement services, the operation procurement outcomes in National Information Technology Authority Uganda have always demonstrated high levels of improved performance in lead times, cost labor productivity and capacity and lastly procurement performance can be improved once e-procurement such as e-sourcing, e-tendering and e-contracting are effectively applied. The researcher recommended that: National Information Technology Authority Uganda should develop good value for money audit, and this will help to cater for issues surrounding delivery dates, contract compliance, and customer service issues can be resolved internally before going out to contract, National Information Technology Authority Uganda should develop high compliance audits whereby procurement officers should plan to combine all the budgets of the different departments and procure at once as a way of reducing the expenses involved in procurement and this can help to save a lot of money and later improves performance.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose and objectives of the study, research questions, research hypothesis, significance of the study, scope of the study and operational definitions.

1.1 Background to the study

1.1.1 Historical Background

Globally public entities are operating in an increasingly competitive business environment that demands aspects like cost reduction strategies, flexibility in operations, efficient and effective procurement processes in order to ensure that their performance is good and can match that of competitors or customer requirements. This means that, to a certain extent, SOEs have to grapple with converting pure private sector best practices into public sector practice in order to improve performance (Callender, 2013). The Chartered Institute of Purchasing and Supply (CIPS) believes that public entities should universally apply the practice set out (as laws, regulations, policies and procedures) and should encourage all cadre of organizations to include good ethical business practices in all areas of their work. In this case, organizations should also involve all stakeholders in this process. It is vital that organization's management visibly endorses procurement ethical policy (Rottig, Koufteros, & Umphress, 2011). As a result, the imperative for the development of professional code of ethics, standard terminologies, and best practices has developed in equal measure (Guth, 2011). As Narasimhan and Das (2014) suggest, there has been increased pressure for purchasing integration. This is the integration of purchasing practices and goals with a firm's objectives. Purchasing integration has been found to link purchasing practices and organizational performance (Gattorna, 2013).

In Africa, public e-procurement system has been undergoing transformation consistent with the global trend since the mid-1990s (RoK, 2011). Owegi and Aligula (2011) argue that previous to these reforms, the legal framework governing public procurement was very amorphous, providing conducive environment for the perpetration of various ill practices in public procurement including the endemic corruption that characterized the system. Since Kenya's political independence in 1963, public procurement decisions were guided by a Supplies Manual written in 1978 and

circulars issued by the by Treasury regularly. Procurement ethics was undertaken through various laws including general commercial laws such as Sale of goods Act, the Law of contracts and Government Contracts Act among a myriad of other statutes containing aspects of procurement and laws governing the practice of various professions.

In Uganda public e-procurement provide advice and guidance to buying organizations on how to develop ethical purchasing practices in their supply chains (Arkingstall, 2012). Although intended primarily for buyers, this guidance applies equally to anyone who has responsibility for managing the supply of goods or services from an external source. It has become essential for public organizations to have an ethical policy or code of conduct in procurement functions (Amstrong and Sweeney, 2013).

1.1.2 Theoretical perspective

The institutional theory is the traditional approach that is used to examine elements of public procurement (Luhmann, 2011). Scott (2013) identifies three pillars of institutions as regulatory, normative and cultural cognitive. The regulatory pillar emphasizes the use of rules, laws and sanctions as enforcement mechanism, with expedience as basis for e-sourcing. According to Scott (2013), institutions are composed of cultural-cognitive and regulative elements that, together with associated activities and resources give meaning to life. In Kenya, public procurement is guided by the PPDA Act 2014, regulations and guidelines which are from time to time issued by the Public Procurement Oversight Authority only and which must comply with to the latter by all the public entities and providers of Public procurement regulations (2011) and guidelines directing procurement activities (Barrett, 2011). Institutional theory states that there should be e-sourcing with Public procurement regulations to ensure competitive bidding, e-tendering, and professionalism in procurement process (Andrew, 2014).

1.1.3 Conceptual perspective

Leis (2011) defined electronic procurement as the business-to-business requisitioning, ordering and purchasing of goods and services over the internet. E-procurement (electronic procurement, sometimes also known as supplier exchange) is the business-to-business or business-to-client or business-to-government purchase and sale of supplies, work, and services through the Internet as well as other information and networking systems, such as electronic data interchange and enterprise resource planning (Kaufmann, (2009).

Henderson (2014) defined procurement performance as the extent to which operational procurement outcomes demonstrate high levels of improved performance in lead time, cost, labor-productivity, and capacity utilization.

1.1.4 Contextual perspective

The prime objective of procurement in the procurement department in National Information Technology Authority Uganda is to achieve value for money. Most procurement malpractices that are being reported in the company have been caused by the procurement officer's failure to observe procurement professional ethics. Non-e-sourcing to procurement rules and regulations, lack of e-contracting, lack of e-tendering all these have led acquisition of poor quality of products and services contracting of fake contractors.

1.2 Statement of the problem

In Uganda National Information Technology Authority must follow the PPDA Act as far as procurement and disposal of assets is concerned. The Government of Uganda tried to decentralise and streamline all public procurement and disposal activities that were formerly performed by the tender boards. These new reforms sought to improve procurement performance in terms of efficiency, effectiveness, reduce corruption and above all achieve value for money.

Despite the above reforms, public procurement performance has not improved and this has consequently led to poor performance in National Information Technology Authority. For example it takes four (4) working days to advertise and a bidding period of thirty three (33) working days, if the open international bidding method was used. This coupled with time taken to evaluate bids, contract and communicate award decisions approximately takes not less than four months as opposed to the private entities that take an average of ten (10) days. The time spent if well compounded and quantified transcends into high transaction costs (Gratton and Ghoshal, 2017).

In line with the above, the presence of opportunistic behavior, absence of trust and mal practices like corruption and bribery by the contracting parties has greatly affected procurement performance in National Information Technology Authority. It is estimated that 7% to 9% of the total contract values are paid to corrupt officials (PPDA, IGG & USAID, 2017) while 45.5% bidders expect to give gifts in order to secure contracts (World Bank Enterprise Survey, 2018). The Global Integrity Survey reports that 300 Million US dollars are lost in National Information Technology Authority each year due to opportunism and other procurement mal practices.

Furthermore, the Uganda Auditor General's Report (2015) estimates that 20% of the value of public procurement is lost through corruption, prompted by weak public procurement regulations. There is therefore need to effectively manage the behavior of those concerned with managing the procurement process because this plays a great role in determining the success of the contracting process. However, although few empirical investigations to examine the root cause of the major problem occurring from procurement of goods and contracting of service providers, there is still rampant of flaws and corruption in National Information Technology Authority Uganda and hence the need for the researcher to investigate the effect of e-procurement and procurement performance in National Information Technology Authority Uganda.

1.3 Purpose of the study

The study determined the impact of electronic procurement on procurement performance in National Information Technology Authority Uganda.

1.4 Objectives of the study

- (i) To examine the level of e-procurement in National Information Technology Authority Uganda .
- (ii) To establish the level of procurement performance in National Information Technology Authority Uganda .
- (iii)To assess the relationship between e-procurement and procurement performance in National Information Technology Authority Uganda

1.5 Research questions

- (i) What is the level of e-procurement in National Information Technology Authority Uganda?
- (ii) What is the level of procurement performance in National Information Technology Authority Uganda?
- (iii)What is the relationship between e-procurement and procurement performance in National Information Technology Authority Uganda?

1.6 Research hypothesis

H₀: There is a significant relationship between e-procurement and procurement performance in National Information Technology Authority Uganda.

1.7 Scope of the Study

1.7.1 Geographical Scope

The research was carried out in National Information Technology Authority Uganda limited. The National Information Technology Authority-Uganda (NITA-U) is an autonomous statutory body established under the NITA-U Act 2009, to coordinate and regulate Information Technology services in Uganda.

1.7.2 Content Scope

In terms of content scope the study took into account the level of electronic procurement and procurement performance. The independent variable (e-procurement) was measured in relation to e-sourcing, e-contracting and e-tendering. Whereas procurement performance was measured in relation to quality of service, timeliness and cost savings.

1.7.3 Time Scope

The study was limited to the period between 2015 and 2018. The study focused on this period since this is the period electronic procurement gained popularity and trust among the society in National Information Technology Authority-Uganda.

1.8 Significance of the study

The study also will add literature review to the already established information about the variables hence acting as a source of literature review to the future academician's who may get interest in researching about the same study variables of e-procurement and accountability of public funds in National Information Technology Authority Uganda.

The study may further help to bring out the weaknesses in e-procurement found at National Information Technology Authority Uganda regarding to the procurement performance as well as recommendable strategies to solve established weaknesses at the same organization.

The findings from the study are likely to empower the finance and audit staff to evaluate some of the policies governing financial and procurement management and see whether they are generating the intended results. This may provide such users a base on which to modify these policies to suit the demands of the different stakeholders hence improving procurement performance.

To the researcher, the research study will avail more information to the researcher hence becoming more acquainted with the relationship that exists between electronic procurement and procurement performance in National Information Technology Authority Uganda. At the end of the study the researcher will be able to identify gaps in the study that can be a basis for further research in the future.

1.9 Operational Definitions of key terms

E-procurement; this referred to the business-to-government purchase and sale of supplies, work, and services through the Internet as well as other information and networking systems, such as electronic data interchange and enterprise resource planning.

Procurement performance; this referred to achieving the set organizational procurement objectives and responsibilities from the perspective of the judging party. Consequently, indicators have to be gathered relating to activities conducted by procurement officers, the outputs produced by the activities, the intended outcomes (improved performance) and impact (more value for money).

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This presents a critical review of written literature on effect Electronic procurement and procurement Competences in public procurement

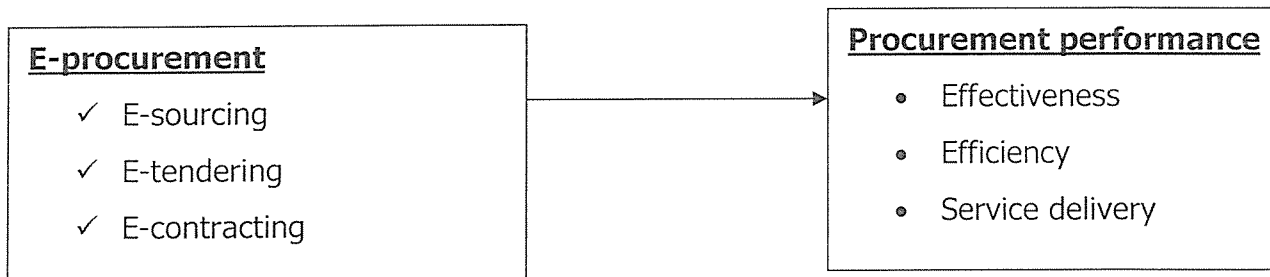
2.1 Theoretical Review

Technology Acceptance theory

The study is based on Technology Acceptance Theory. Technology acceptance model was introduced by Davis (1986). According to this theory, emerging technologies cannot improve organizational effectiveness and performance if the change has not been accepted by the users (Davis, 1986). The theory of technology acceptance is one of the most popular theories in understanding adoption of computer technologies. Adoption of any innovation or especially information technology based requires investment in computer based tools to support decision making, planning communication. However, these systems may be risky. It is therefore very critical that the systems are specified on organizational preference and logic.

It is also necessary to understand that people may resist technological changes. There must be an effort to understand why people resist changes and the possible ways through which such issues can be resolved. Appropriate organizational culture must be inculcated; the change must be adopted in an incremental way accompanied by communication. Everyone involved must be informed on their roles and empowered to perform the respective roles (Kamel, 2014). The technology Acceptance theory is based on two assumptions; perceived usefulness of the system such as; improved performance, enhanced productivity, effectiveness and efficiency in operations etc. and the perceived ease of use of the new systems such as ease to learn, ease to use, ease to control and ease to remember. This theory brings an understanding that acceptance and use of new technology is a function of the users' feelings about the system and its perceived benefits.

2.2 Conceptual framework



Source: Mustaffa (2012)

The conceptual frame work showed that the independent variable electronic procurement was broken down in terms of e-sourcing, e-tendering and e-contracting, whereas procurement performance was conceptualized in relation to effectiveness, efficiency and service delivery. This means government officials need to be satisfied that the best possible outcome has been achieved taking into account all relevant cost benefits over the whole of the procurement cycle (Raymond, Jeanette, 2014). This provides the achievement of value for money by providing practical information on managing procurement processes that lead to agencies entering into purchasing agreement with suppliers (Peter, 2014). A record of the procurement process should be created and maintained for a minimum period of six years. This facilitates scrutiny of factors and principles that informed certain decisions. The appropriate mix and level of documentation depends on the nature and risk profile of the procurement process being undertaken (Solomon, 2010).

2.3 Related literature

2.3.1 Level of e-procurement

2.3.1.1 E-sourcing

E-sourcing and reverse auctions can provide benefits to buyers including process cost savings, reduction in search / information costs, and a more efficient procurement process (Garicano and Kaplan, 2000). However there is a potential that suppliers, especially incumbents, will resist sourcing and reverse auctions in the belief that they lower profit margins and overlook value-added services. Newer suppliers are more likely to view e-sourcing as an opportunity to expand their existing businesses without corresponding increase in their sales expenses. They discuss various strategies that buyers can employ to maximize supplier participation in the reverse auction process

as well as strategies suppliers can use in the short and long-term to ensure that they are active participants in the strategic e-sourcing process (Walter and Kamau, 2013).

Companies are increasingly looking at e-sourcing and reverse auctions as a means by which to reduce their procurement expenses and provide bottom line savings to the organization in a relatively short time. However, this has sometimes led to resistance among suppliers who believe that e-sourcing results in commoditization of goods and services, lack of appreciation of value-added services, and in negative impacts on buyer-supplier relationships (World Bank, 2011).

Hunt (2012) noted that buyers have a choice of either working with a third party as an e-sourcing provider or licensing software to conduct e-sourcing in-house. Companies in the initial stages of their e-sourcing efforts are more likely to benefit from going with a third party e-sourcing Service Provider to speed up their learning curve. Also, utilizing a third party provider also helps to reduce conflicts of interest because most third party providers have a set of rules that must be followed by both buyers and sellers. These include rules about buyer intent to award the contract, the buyer bidding against suppliers to create artificial, competition, etc.

E-sourcing can provide benefits to suppliers and these include a more transparent purchasing process, increased market reach, reduced customer acquisition costs, and competitive pricing information (Schapper, 2011). The e-sourcing and reverse auction process forces buyers to spend more time upfront in creating and communicating specifications, contract specifications, and delivery requirements, thus providing better information to the suppliers prior to the bidding process (Wanyama, 2011).

The e-sourcing process also tends to level the playing field for smaller companies with limited number of sales resources. Some suppliers have used reverse auctions to benchmark themselves against the competition and, if necessary look at approaches to obtaining more competitive pricing without compromising quality of products or services. As long as the cost of participating is less than the potential benefit from participating, a supplier will benefit from participating and there is clearly no benefit from not participating (Agaba & Shipman, 2012).

Kelman (2011) argued that choosing the right partner, as an e-sourcing service provider is an important step in initiating an e-sourcing program. In addition to strategic sourcing and reverse auction expertise, technology and staying power, a fit with company size and culture should be

considered. A buyer should consider the provider's familiarity with the nuances of spend analysis, the identification of the right categories for e-sourcing, supply market analysis, the design of the right RFP, the ability to train suppliers, and the ability to provide operational support during the bidding event. The buyer also should consider the service provider's experience with similar buyers. A service provider with a client base of Fortune 500 companies may use an approach that is not well suited to the needs of a mid-size company with more limited resources. Finally, the buyer should understand the process by which service providers choose suppliers and ensure that appropriate suppliers are chosen. For example, some service providers may choose poor suppliers who do not match client needs, such as geographic proximity, regulatory requirements, ability to timely deliver a certain volume of goods or services etc (Thai, 2012).

2.3.1.2 E-tendering

Segal (2012) noted that the reduction in staff is an important way of producing competitive advantage through reduced costs. This is further supported by Brinkerhoff (2013) in his study which revealed that through implementation of an e-procurement system, a steel supplier was able to carry out a multi-million pound project with only 20% of the staff the company would normally have used. Fifthly, e-procurement gives an organization competitive advantage over its competitors. As a centralized department can oversee all procurement activities and different offices worldwide can access the same documentation when required, this gives a distinct advantage over the much slower process of having to post documentation between offices. This extends the supply chain beyond geographical boundaries to a much wider group. Suppliers can be monitored on timely delivery, quality delivery of products and services hence performing suppliers can be contacted in future. This raises other logistical considerations which may impact on scheme quality (Eddie et al, 2007).

Hawking et al, (2004) as quoted Graafland (2012) considered market intelligence and the decisions made on that intelligence as two separate drivers. They however state that since reliable procurement decisions cannot be made without market intelligence and each is reliant on the other for the purpose of this study these two are considered together as "Improved Market Intelligence and Enhanced Decision making". A reduced Operating and Inventory cost is also another benefit of e-procurement: This is from the fact that much if not all paperwork is eliminated. Postage costs are also not incurred, among other expenses associated with sending and receiving documents when sending them by post (Mamic, 2014).

According to Jeppesen (2011), an organization which uses E-procurement has the following advantages: First, Price reduction in tendering: Empirical studies carried out by Armstrong (2014) in the United States of America indicated that the two most important measures for the success of procurement processes are cost and time. In this method, there is no paperwork, postage fee and other costs associated with preparation and sending tender documents. It is also faster to send a document electronically as compared to the traditional method of sending tender documents through post office. It results to improved order tracking and tracing, for it is much easier to trace the orders and make necessary corrections in case an error is observed in the previous order.

Eadie et al (2007) noted that e-procurement is a rapid efficient method of finding and connecting new sources, being a lean channel for communication. A lot of time is spent on paper invoicing in terms of writing, filing and postal communication but while in e-procurement, staff have sufficient time to engage on strategic issues of procurement. The time wasted in moving from one town or country to another to look for a potential supplier or buyer is greatly reduced since with a click of a button, you can readily get the information in the internet. By extension, E-procurement leads to reduction in maverick buying. Maverick buying is when staff buys from suppliers than those with whom a purchasing agreement has been negotiated. Thirdly, Lower Administration costs: in his research, Elshleman (2012) argues that e-procurement results in reduction in paperwork and this leads to lower administration costs. Fourthly, Reduction in procurement staff: since most of the procurement process is done electronically, the number of staff needed to facilitate the process reduces.

2.3.1.3 E-contracting

Rosdahl (2002) noted that e-contract is any kind of contract formed in the course of e-commerce by the interaction of two or more individuals using electronic means, such as e-mail, the interaction of an individual with an electronic agent, such as a computer program, or the interaction of at least two electronic agents that are programmed to recognize the existence of a contract. The Uniform Computer Information Transactions Act provides rules regarding the formation, governance, and basic terms of an e-contract. Traditional contract principles and remedies also apply to e-contracts. This is also known as electronic contract.

Johnston (2005) argued that e-tendering systems generate and process electronic documents that are part of business activities. A key legal requirement for record keeping is the preservation of the evidentiary integrity of records, both documents and contextual data; this poses a major technical challenge in an electronic environment. To maximize the evidentiary weight of electronic records, the e-tendering system needs to ensure that evidentially significant electronic records are identified, are available and are usable; identify the author of electronic records; establish the time and date of creation or alteration; establish the authenticity of electronic records; and establish the reliability of computer programs. The following e-tendering documents are important evidential material: tender document submissions; Tender specification and addenda produced by the principal; tender revocation notices submitted by tenderers; negotiation communications post tender close time; request for explanation communications pre-tender close time; award oftener announcement; and any receipt of message acknowledgments (Kaufmann, 2009).

E-contracting allows the principal to post the tender advertisement and documents on a website and the tenderers download the tender documents (Svensson, 2002). The documents are still submitted in paper. There is no two-way communication occurring in an electronic environment. For web-based applications, the Secure Sockets Layer is an effective mechanism to provide integrity and confidentiality to communications. Although Secure Sockets Layer can provide message authentication, it does not provide non-repudiation of communicated data. When non-repudiation is needed, this has to be provided by digitally signing the data before it is passed on to Secure Sockets Layer for transmission. For closed or restricted tenders, only correctly identified pre-qualified tenderers should be able to view the tender specification or advertisement (Sanders, 2005).

Young (2009) indicated that today businesses and governments are largely reliant on information and communication technology to communicate and making contacts. E-tendering is increasingly being adopted through the world. E-tendering in its simplest form is described as the electronic publishing, communicating, accessing, receiving and submitting of all tender related information and documentation via the internet. Thereby replacing the traditional paper-based tender processes and achieving a more efficient and business process for parties involved. The basic principles of the tendering process have been applied to many business areas, such as purchasing goods, seeking service providers, business consulting, or the selection of main contractors for construction work.

Inadequate security brings opportunities for fraud and collusion by parties inside and outside of the tendering process (Reinikka, 2010).

According to ROK, (2009), the five years ending 2007 had indeed been a period when government took bold steps to implement reforms under the Economic Recovery Strategy for Wealth Creation (ERS). As a result, real GDP grew steadily from 0.5% in 2002 to 7% in 2007 and per capita income increased from US\$ 430 to US\$735. E-procurement implementation was one of the strategy framework that have been identified to yield significant benefits for government in terms of procurement cost reduction, enhancing efficiency and fighting corruption considering that 60% of government expenditure is spent through public procurement.

2.3.2 Procurement performance

Henderson (2014) noted that if procurement performance in the public sector are to assist the development of procurement performance across the information economy, there should be wider discussion on what constitutes the critical success factors. A million dollar question is that despite numerous benefits on the use of Procurement performance in the government, its implementation has largely been slow. Therefore there exists a gap of knowledge on factors affecting procurement performance implementation in the government ministries.

According to Bhote (2014), procurement performance is more likely to be beneficial in dispersed supply chains as it helps coordination of procurement activities. Different actors in supply chains have got different power, legitimacy and urgency to implement procurement performance and procurement performance can have an effect on trust in supply chain relationships. Different industries show different propensities to procurement performance adoption, related to existing use of information exchange infrastructures prior to the advent of the internet (Burt, 2013). The greatest benefits of procurement performance occur when its application is fully integrated throughout the supply chain (Venable et al., 2005). Some literature has pointed out procurement performance is more likely to be adopted if it is perceived that suppliers have capability to deal with it.

The potentials of procurement performance have already been proven in a number of studies ((Nakumara, 2013). According to these studies, procurement performance enables companies to

decentralize operational procurement processes and centralize strategic procurement processes as a result of the higher supply chain transparency provided by procurement performance systems. A company's procurement function is subdivided into strategic and operational processes since activities and priorities in these two areas are entirely different. Prior to procurement performance, strategic procurement often had to deal with administrative routine work as well, such as individual transactions, converting purchase requests into purchase orders or ensuring the correct allocation of invoices received, (Kaufmann, 2009). Despite the potentials promised by the vendors of such systems, e-procurement got off to a slow start. Although the adoption of procurement performance has rapidly increased in recent years, companies face different challenges associated with the advent and use of procurement performance.

Procurement performance adoption has to be managed well to achieve the firm's performance goals. There are several key success factors, related to both the competency of the procurement performance service provided by an online auction intermediary and to the organization's own internal capabilities. Johnston (2005) argues that one key success factor relating to procurement performance is technical capability of the system. Technical service quality in terms of system quality (security, reliability, easy to use, accessibility) and service quality (e.g. responsiveness of service). In addition, trust in the service provider is another major success factor for electronic service adoption.

Procurement performance provides higher degree of convenience that enables clients to access internet at all times and places. Apart from that, the ease of access of computers is perceived as a measure of relative advantage (Daniel, 1999, Black et al, 2001; Polatoglu and Ekin, 2001; Gerrard and Cunningham, 2003). However in Johnston (1995) had revealed that there are some service quality determinants that are predominantly satisfiers and others that are predominantly dissatisfies with the main sources of satisfaction being attentiveness, responsiveness, care and friendliness. The main sources of dissatisfaction are integrity, reliability, responsiveness, availability and functionality.

Karin et al (2013) singled out non-adherence to e-procurement methods as a major impediment to procurement development in Kenya. He however did not specify the stage of procurement where this happened. In as much as the above studies highlight the core role of proper need assessment as a foundation for an effective procurement, they fail in bringing to the fore the link between need

assessment and performance in relation to performance. Karin also point out the importance of procurement as a moral and ethical concern and recognize that administrative action is permeated by moral choices and are therefore models of not only technical and professional competencies but also of moral behavior (Schlosser, 2013).

Ahmed (2014) also in his study on e-procurement he further noted that many organizations however are unable to deliver services to residents. He found out that this might be because of lack of finances or lack of capacity to provide a good service at an affordable price. So these organizations should find other ways to ensure that the services are improved and reach the people most in need of them.

2.3.3 Relationship between e-procurement and procurement performance

Van Weele (2012) purchasing performance is considered to be the result of two elements: purchasing effectiveness and purchasing efficiency. Performance provides the basis for an organization to assess how well it is progressing towards its predetermined objectives, identifies areas of strengths and weaknesses and decides on future initiatives with the goal of how to initiate performance improvements. This means that purchasing performance is not an end in itself but a means to effective and efficient control and monitoring of the purchasing function (Lardenoije, Van Raaij, & Van Weele, 2011). Edvardsson (2013) contends that specification is an integral part of the procurement function. Without a quality specification the process can be filled with pitfalls and obstacles for the purchasing department. He lists the characteristics of a good specification as follows; Identifies the minimum requirements of the end user, allows for a fair and open procurement process, provides for testing/inspection to insure the goods/services received meet the standard set forth in the specification and provides equitable award at the lowest possible cost.

Purchasing efficiency and purchasing effectiveness represent different competencies and capabilities for the purchasing function. CIPS Australia (2012) presents the differences between efficiency and effectiveness. Efficiency reflects that the organization is “doing things right” whereas effectiveness relates to the organization “doing the right thing”. This means an organization can be effective and fail to be efficient, the challenge being to balance between the two. For any organization to change its focus and become more competitive, Amaratunga & Baldry (2011) suggest that performance is a key driver to improving quality of services while its

absence or use of inappropriate means can act as a barrier to change and may lead to deterioration of the purchasing function.

According to the PPDA Act (2013), purchases must be economical and efficient. This means that they should be based on market prices and should be able to generate saving. It also means that bad practices such as irresponsible procurement leading to wastage, wear and tear of stocks, over invoicing, unplanned expenditure, shortage of goods when needed, poor quality products and similar factors to be avoided. The PPOA prepares and updates a Market Price Index (MPI) to be used by the Procuring Entity (PE) on a periodic basis.

Mohammad (2010) conducted a study on e-procurement systems in Pakistan and he found that data gathered from the questionnaire shows the attachment of the Ministry clients with computerized system instead of manual system. Knudsen (2013) suggested that procurement performance starts from purchasing efficiency and effectiveness in the procurement function in order to change from being reactive to being proactive to attain set performance levels in an entity.

Njakko (2012) talked about e-procurement system and service delivery in South Sudan in public organisations. Her findings revealed that e-procurement has not satisfied most clients' needs, most of clients don't enjoy using e-procurement, this results into a low level of satisfaction. The few break downs in IT machines and the long queues lowers the level of satisfaction. Findings revealed that there is a weak positive relationship between e-procurement and service delivery. The Pearson's correlation between e-procurement and service delivery stood at 38.8% which is a weak direct relationship between the two variables. It is therefore true to say that e-procurement has a significant effect on service delivery.

2.4 Research gaps

In Uganda it is estimated that 60% of government expenditure is allocated to procurement audits, which is significant for a country that is facing liquidity challenges coupled with a lack of balance of payment support (Mushanyuri 2014). Subsequently, the procurement audits system in Uganda has been under scrutiny, with many blaming failures to implement government projects and initiatives on the procurement audit process (Gayed 2013; Mushanyuri 2014). Earlier studies in procurement audits and supply chain management have established that procurement audits efficiency impacts on service delivery (Musanzikwa 2013; Tsabora 2014), and preliminary study

(Dzuke & Naude 2015) has been published which focuses on the procurement audits challenges in the Ugandan sector. This article focuses on problems affecting the operational procurement audits process that detract from service delivery in Uganda. Public officers are being held accountable not for results in service delivery but adherence to procedural requirements of the procurement processes.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter focuses on the methodology that will be applied in the process of carrying out this study. It focuses on the research design, study population, sample size, sampling techniques, data collection techniques, data quality control and data analysis.

3.1 Research Design

Research design refers to the overall plan that the researcher follows in carrying out the study. It describes the process that the researcher follows from the inception to completion of the study (Cooper & Schindler, 2013). This study was conducted using a correlation research design. According Oso & Onen (2008), correlation design is the determination of whether or not, and to what extent an association exists between two or more paired and quantifiable variables. The extent of relationship or association between two or more variables can be obtained through a design known as a correlational research design. A correlational research design is deemed appropriate because the researcher wants to establish whether and to what extent, a relationship exists between Islamic microfinance services and women economic empowerment in Bosaso Puntland. The study employed a quantitative approach since it is the one used to get relationships between variables and verifying research hypotheses.

3.2 Study Population

This study was conducted among 52 managers, 78 contractors, 20 heads of department and 10 procurement officers from National Information Technology Authority Uganda. The researcher selected those groups of respondents because they had information and experience of the e-procurement methods practiced in the organization, and also understood the obstacles in procurement performance and the importance of it. However the total population 150 respondents from whom he selected the sample size from.

3.3 Sample Size

The sample size consisted of one hundred and nine (109) respondents selected from the following categories, and the researcher used the Slovin's formula to come up with the sample size. The

researcher used the Slovin's formula because she wanted to have a confidence level of 95 percent (which gave a margin of error of 0.05).

Slovenes formula

$$n = \frac{N}{1 + N(e^2)}$$

Where: n=sample size

N=target population

e=level of significance/marginal error (0.05)

$$\begin{aligned} n &= \frac{N}{1 + N(e^2)} \\ &= \frac{150}{1 + 150(0.0025)} \\ &= \frac{150}{1 + 0.4} \\ &= \frac{150}{1.4} \\ n &= \underline{\underline{114}} \end{aligned}$$

Table 1:Population and sample size

Respondents	Population	Sample	Sampling technique
Managers	52	37	Simple random sampling
Contractors	78	56	Simple random sampling
Heads of departments	20	14	Purposive sampling
Procurement officers	10	7	Purposive sampling
Total	150	114	

3.4 Sampling techniques

A simple random sampling technique was used in selecting respondents for this study. The researcher found a simple random sampling technique appropriate for the study since it eliminates the possibility that the sample is biased by the preference of the person selecting the sample as observed by Bordens & Abbott (2016). In a simple random sampling technique, the researcher used a rotary method where he got a list of respondents engaging in e-procurement operations in

National Information Technology Authority Uganda and then arranged them in alphabetical order. He selected the third person out of the list until a sample of 114 respondents was obtained.

3.5 Data Collection instruments

3.5.1 Questionnaire

This study involved use of primary data and as such questionnaires were used to collect primary data. Closed ended questionnaires were used to collect data from all the selected respondents. The questionnaires consisted of two sections. The first section had to seek for demographic characteristics of the respondents while the second section covered items of the variables under study. Responses were based on a four-point Likert scale of 1 to mean Strongly Disagree, 2 to mean Disagree, 3 to mean Agree, and 4 to mean Strongly Agree. According to Mugenda & Mugenda (2007), a questionnaire is considered easy to administer, cost effective in data collection, useful in collecting quantitative data and convenient in data collection.

3.5.2 Interview guide

This was conducted by the researcher to probe for more information in a face to face discussion. This targeted the employees, procurement officers and contractors. This helped the researcher to achieve the first hand information by using the interview guide that lead in giving respondents opinions. The prime advantage of this method was to ensure classification and capturing facial expression of the interviews, it gave room for correction and provided friendly atmosphere for both the interviewer and respondent since it was interactive.

3.6 Validity and Reliability of the Instruments

3.6.1 Validity of Instrument

Saunders et al (2009) stated that, the validity of a questionnaire is concerned with the extent to which a questionnaire measures what it is designed to measure. To ascertain content validity of the research instrument, the researcher consulted experts in research in the department of procurement and supplies from the University. Thereafter, a Content Validity Index was computed using the formula indicated below;

Content Validity Index (CVI) = Number of items rated relevant

Total number of items being rated

Using the above formula, the instrument was considered valid if its CVI is 0.7 or more. This is because; instruments with validity co-efficient of at least 0.7 are accepted as valid in research (Oso & Onen, 2008).

3.6.2 Reliability of Instrument

According to Trochim (2006), reliability of the measuring instrument addresses the question of whether the results of the measuring processes are consistent on occasions when they should be consistent. To ensure reliability, the researcher carried out a pilot study in the study area. Data collected from this pilot study was then entered in the SPSS and a Cronbach's Coefficient Alpha will be computed to test for reliability of the instrument. Using results of the Cronbach's Alpha test, the instrument was considered reliable if its Cronbach's Alpha is 0.7 or more. This is because; instruments with Cronbach's Alpha value of at least 0.7 are accepted as reliable in research (Mugenda & Mugenda, 2003).

3.7 Data Analysis

Yin (2003) pointed out that analysis of data involves examining, categorizing, tabulating or otherwise combining the evidence to address the initial propositions of a study. Collected data was coded and entered into the SPSS version 20 program for analysis. Descriptive statistics was used to summarize the data including percentages and frequencies. Tables were used to present the data collected for ease of understanding and analysis. Inferential statistics like Pearson correlation analysis was used to test the relationship between the dependent and independent variables. This is based on Kothari (2004) who observed that a correlation analysis is used in determining the amount of correlation between two or more variables.

3.8 Ethical considerations

Ethical considerations was taken into consideration by first seeking for authorization from the authorities in National Information Technology Authority-Uganda to carry out the proposed study. The authorities and the respondents were given the understanding that the findings were used for academic purposes only. The identity of respondents giving information was also made private and confidential to prevent any victimization.

3.9 Limitations of the study

The researcher claimed an acceptable (0.05 level of significance) 5% margin of error in view of the following anticipated threats to validity with relevance to this study:

Extraneous variables: The researcher had no control over the extraneous variables such as honesty of the respondents, personal biases and descriptive nature of the Design. For untruthfulness where some of the respondents were expected not to say the truth, the researcher probed the respondents further to establish the truth when it was necessary.

Uncooperative behavior of some respondents who were reluctant to give information could limit the researcher in this study. However, the researcher mitigated this by assuring the respondents that the study was intended for academic intentions only and the researcher showed them his university identity card and university letter permitting him to carry out the research.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter shows the demographic characteristics of the respondents, level of electronic procurement, the level of procurement performance and the relationship between electronic procurement and procurement performance in National Information Technology Authority Uganda.

4.1 Demographic characteristics of the respondents

Respondents in this study included workers from National Information Technology Authority Uganda and their information as indicated in table 4.1 below;

Table 4.1: Profile of respondents

Category	Frequency	Percent
Gender		
Male	75	74
Female	26	26
Total	101	100
Age		
20-29 years	17	17
30-39	44	43
40-49 years	29	29
50-59 years	11	11
Total	101	100
Education qualification		
Certificate	18	18
Diploma	34	34
Bachelors	45	44
Masters	4	4
Total	101	100
Working experience		
Less than /Below 1 year	24	24
1-4 Years	36	36
5-9 years	32	32
10 years and above	9	8
Total	101	100

Source: Primary data, 2019

Table 4.1 results indicated that upon gender, male respondents dominated this sample with (74%) and female (26%), as far as age is concerned most respondents in this sample were between 30-39 years (43%), these were followed by those between 40-49 years (29%), 17% were between 20-29 and only 11% were between 50-59, hence implying that most respondents were in their middle adult age. With respect to education qualification, majority of respondents were Bachelors degree holders (44%), 34% had diploma, 18% had certificate and very few had Masters Degree (4%), and this implied that majority of respondents in this sample had gone far with education, where they could read and interpret the questions.

With respect to working experience; results in table 4.1 indicated that majority of respondents had a working experience of 1-4 years (36%), these were followed by those who had worked for 5-9 years (32%), 24% had worked for less than /below 1year, and 8% had for 10 years and above, this is because of their age limit which always force them to look for other organizations that can accept their age, implying that majority of workers are experienced enough.

4.2 Electronic procurement

The independent variable in this study (e-procurement) was broken into three constructs and these were; e-sourcing (measured with four questions or items), e-tendering (measured with four items) and e-contracting (with four questions or items). All these questions were based on a four point Likert scale, in which respondents were required to show the extent to which they agree or disagree with each question or item. The SPSS software was used to analyse their responses using means and ranks as indicated in table 4.2;

Table 4.2: Level of electronic procurement

Items on e-procurement	Mean	Interpretation	Rank
E-sourcing			
Provides a simple format for submitting data online to the National Information Technology Authority Uganda	2.82	Satisfactory	1
E-Sourcing gives vendors an opportunity to bid and compete fairly for businesses	2.71	Satisfactory	2
E-sourcing helps in making better decisions in terms of costs and quality	2.57	Satisfactory	3
E-sourcing facilitates the full life cycle of procurement by analyzing how a company spends their money on those assets electronically	2.35	Unsatisfactory	4
Average mean	2.58	Satisfactory	
E-tendering			
E-tendering enables staff to concentrate on their prime function	3.04	Satisfactory	1
E-tendering is used in financial transparency and accountability	2.88	Satisfactory	2
It helps in document storage whereby it reduces physical storage constraints	2.57	Satisfactory	3
You always use e-tendering during document distribution and it saves administration time and cost	1.53	Unsatisfactory	4
Average mean	2.51	Satisfactory	
E-contracting			
The National Information Technology Authority Uganda has created an electronic public procurement platform which manages the whole contracting process in a simple, safe and clear way	3.09	Satisfactory	1
The National Information Technology Authority Uganda always monitors the contract performance over networks	2.62	Satisfactory	2
It is supportive of public policy priorities such as public sector deficit reduction	2.55	Satisfactory	3
The National Information Technology Authority Uganda has always engaged in removal of paper from the contracting process and its replacement with a variety of digital processes	1.61	Very unsatisfactory	4
Average mean	2.47	Unsatisfactory	
Overall mean	2.52	Satisfactory	

Source: Primary data, 2019

Results in table 4.2 indicated that e-procurement is was rated satisfactory and this was indicated by the overall mean of 2.52, implying that the National Information Technology Authority Uganda fairly conducts electronic procurement. Results further indicated that the extent of e-procurement differs on different items and in different perspectives; for example, regarding e-sourcing, the respondents rated this construct as satisfactory (average mean=2.58), implying that e-sourcing as a

component of e-procurement provides a simple format for submitting data online to National Information Technology Authority Uganda. With respect to e-tendering; results in table 4.2 indicated that out of the four items used to measure the extent of e-tendering in National Information Technology Authority Uganda; only one item was rated unsatisfactory and three items were rated satisfactory. However, the average mean of 2.51, falls under satisfactory on the interpretation scale, implying that the e-tendering enables staff in the National Information Technology Authority Uganda to concentrate on their prime function. Concerning e-contracting; this construct was rated unsatisfactory and this was indicated by the average mean of 2.47, hence implying that the e-contracting system in the National Information Technology Authority Uganda does not provide high degree of convenience to clients.

4.3 Procurement performance

Procurement performance is the dependent variable in this study and was broken into three constructs and these are; efficiency (with four questions), effectiveness (with four items) and service delivery (with four questions). Each of these questions was based on a four point Likert scale and respondents indicated the extent to which they agree or disagree with each question, their responses were analyzed using SPSS and summarized using means as indicated in tables 4.3;

Table 4.3: Procurement performance

Items on procurement performance	Mean	Interpretation	Rank
Efficiency			
You always provide a service with minimal wastage of time or resources	3.72	Very high	1
You always embrace the need for greater quality of services	2.79	High	2
You always produce solid quality and quantity of work	2.56	High	3
You have always been improving on the quality of services in this organization	2.31	Low	4
Average mean		High	
Effectiveness			
You always complete your work in time	3.47	Very high	1
You always put in extra hours in order to get the desired results at work	3.29	Very high	2
You always complete work with deficiencies	2.62	High	3
Your always achieve your tasks successfully	2.59	High	4
Average mean	2.99	High	
Service delivery			
Ensuring availability and access to government services is one of the main functions in your administration	2.98	High	1
Increasing of inputs has lead to improved procurement performance and enhanced access to services	2.74	High	2
Dimensions of access to services are always a pre-condition for quality in your organization.	2.60	High	3
Service affordability in your department always depend on the clients' ability	2.15	Low	4
Average mean	2.62	High	
Overall mean	2.82	High	

Source: Primary data, 2019

Mean range	Response range	Interpretation
3.26 - 4.00	strongly agree	Very high
2.51 - 3.25	agree	High
1.76 - 2.50	disagree	Low
1.00 - 1.75	strongly disagree	Very low

Results in table 4.3 indicated that the level of procurement performance is generally high and this was indicated by the overall mean of 2.82, which implies that services are relatively provided by National Information Technology Authority Uganda to the citizens. Efficiency was the first construct on the dependent variable and was measured using four items/questions and it was rated high on average (mean=2.85). Results still indicated there is provision of a service with minimal wastage of time or resources (mean=3.72), there is always embracing the need for greater quality of services (mean=2.79), but however some staffs have been not improving on the quality of services in this organisation (mean=2.31).

Concerning effectiveness, results in table 4.3 indicated that this construct was rated high on average and this was indicated by the average mean of 2.99. Always complete the work in time (mean=3.47), always put in extra hours in order to get the desired results at work (mean=3.29), always complete work with deficiencies (mean=2.62), always achieve your tasks successfully (mean=2.59).

Service delivery ; this variable was measured using four questions and it was rated high on average (mean=2.62), hence implying that ensuring the availability and access to government services is one of the main functions in the administration of National Information Technology Authority Uganda (mean=2.98), increasing of inputs has led to improved procurement performance and enhanced access to services (mean=2.74), dimensions of access to services are always a pre-condition for quality in your organization (mean=2.60), however service affordability in some of the departments always do not depend on the clients' ability (mean=2.15).

4.4 Objective three; Relationship between e-procurement and procurement performance in National Information Technology Authority-Uganda

The established a significant relationship between e-procurement and procurement performance in National Information Technology Authority-Uganda. The researcher stated a null hypothesis that there is a significant relationship between e-procurement and procurement performance, however to achieve this objective and to test this null hypothesis, the researcher used the Pearson's Linear Correlation Coefficient as indicated in table 4.6;

Table 4.4: Significant relationship between E-procurement and procurement performance in National Information Technology Authority-Uganda

Variables correlated	r-value	Sig	Interpretation	Decision on Ho
E-procurement Vs Procurement performance	.495	.000	Significant correlation	Rejected

Source: Primary data, 2019

Table 4.4 revealed a positive significant correlation between e-procurement and procurement performance in National Information Technology Authority-Uganda ($r=.495$; $Sig=0.000$). The null hypothesis was rejected meaning that e-procurement and procurement performance are

significantly related, this also leads to an implication that better e-procurement strategies increase the quality of procurement performance in National Information Technology Authority-Uganda.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presented the findings, conclusions, recommendations based on the conclusions of this study and suggested areas that need further research following the study objectives.

5.1 Discussions

This study assessed the effect of electronic procurement on procurement performance in National Information Technology Authority Uganda, three specific objectives guided this study and these were; (i) to examine the level of e-procurement in National Information Technology Authority Uganda, (ii) to establish the level of procurement performance in National Information Technology Authority Uganda, and (iii) to assess the relationship between e-procurement and procurement performance in National Information Technology Authority Uganda.

5.1.1 Objective one; level of e-procurement

The findings indicated that level of electronic procurement in National Information Technology Authority Uganda was rated satisfactory, therefore this implies that that electronic procurement significantly affects procurement performance. This finding is in line with Walter and Kamau (2013) who argued that electronic procurement and reverse auctions can provide benefits to buyers including process cost savings, reduction in search / information costs, and a more efficient procurement process (Garicano and Kaplan, 2000). They discuss various strategies that buyers can employ to maximize supplier participation in the reverse auction process as well as strategies suppliers can use in the short and long-term to ensure that they are active participants in the strategic electronic procurement process. Newer suppliers are more likely to view electronic procurement as an opportunity to expand their existing businesses without corresponding increase in their sales expenses. However there is a potential that suppliers, especially incumbents, will resist sourcing and reverse auctions in the belief that they lower profit margins and overlook value-added services.

Organisations in the initial stages of their electronic procurement efforts are more likely to benefit from going with a third party electronic procurement Service Provider to speed up their learning curve, buyers have a choice of either working with a third party as an electronic procurement provider or licensing software to conduct electronic procurement in-house. Also, utilizing a third party provider also helps to reduce conflicts of interest because most third party providers have a set of rules that must be followed by both buyers and sellers. These include rules about buyer

intent to award the contract, the buyer bidding against suppliers to create artificial, competition, etc (Hunt (2012)).

5.1.2 Objective two; level of procurement performance

The findings indicated that procurement performance was rated high in National Information Technology Authority Uganda. The finding is in line with Amaratunga & Baldry (2011) who noted that procurement performance is a key driver to improving quality of services while its absence or use of inappropriate means can act as a barrier to change and may lead to deterioration of the purchasing function. Edvardsson (2013) contends that specification is an integral part of the procurement function. Without a quality specification the process can be filled with pitfalls and obstacles for the purchasing department. He lists the characteristics of a good specification as follows; Identifies the minimum requirements of the end user. allows for a fair and open procurement process, provides for testing/inspection to insure the goods/services received meet the standard set forth in the specification and provides equitable award at the lowest possible cost.

According to the PPDA Act (2013), purchases must be economical and efficient. This means that they should be based on market prices and should be able to generate saving. It also means that bad practices such as irresponsible procurement leading to wastage, wear and tear of stocks, over invoicing, unplanned expenditure, shortage of goods when needed, poor quality products and similar factors to be avoided. The PPOA prepares and updates a Market Price Index (MPI) to be used by the Procuring Entity (PE) on a periodic basis.

5.1.3 Objective three; relationship between e-procurement and procurement performance

The findings indicated that electronic procurement has a significant correlation on procurement performance in National Information Technology Authority-Uganda, this was so because electronic procurement had a significant relationship on procurement performance. The finding also agrees with Mamiro (2010) who argued that there's a preference for using competitive methods of procurement given that they tend to promote transparency, economy and efficiency, and limit favoritism. In contrast, request for quotations and single-source procurement are considered non-competitive procurement methods because the invitation to submit offers is not advertised, and it is sent only to firms or individuals specifically invited by the procuring entity.

Nwabuzor (2014) describes a comprehensive procurement performance as a function of an all-inclusive procurement ethics process that analyzes all the variables in a specific environment. In relation to the above discussion, the studies and theories have established the value of, cost estimation, quality specification and need assessment. They, however, fail to highlight in clear terms the role of the above procurement ethics variables on institutional procurement performance. Mamiro (2011) noted that lack of procurement performance creates opportunities for corruption, Brinkerhoff (2013) identifies three key components of procurement performance, including the measurement of goals and results, the justification or explanation of those results to internal or external monitors, and punishment or sanctions for non- procurement performance or corrupt behavior. Institutions which do not have procurement performance means in their processes, procedures, and plans experience lower procurement performance and higher customer dissatisfaction and employee turnover (Artery & Stroh, 2014).

5.2 Conclusions

5.2.1 Objective one; level of electronic procurement

From the findings of the study, the level of electronic procurement affects procurement performance in National Information Technology Authority Uganda was rated satisfactory. Hence concluding that National Information Technology Authority Uganda use e-procurement for contracts to achieve benefits such as increased efficiency and cost savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement services.

5.2.2 Objective two; level of procurement performance

From the findings of the study it was indicated that level of procurement performance in National Information Technology Authority Uganda was rated high, hence concluding that the operation procurement outcomes in National Information Technology Authority Uganda have always demonstrated high levels of improved performance in lead times, cost labor productivity, and capacity.

5.2.3 Objective three

According to the findings e-procurement has a significant relationship on procurement performance in National Information Technology Authority Uganda, hence concluding that

procurement performance can be improved once e-procurement such as e-sourcing, e-tendering and e-contracting are effectively applied.

5.3 Recommendation

1. National Information Technology Authority Uganda should develop good value for money audit, and this will help to cater for issues surrounding delivery dates, contract compliance, and customer service issues can be resolved internally before going out to contract.
2. National Information Technology Authority Uganda should address the use of appropriate procurement method by primarily basing on the stipulations of the procurement legal framework, this will help to explain the rationale for the inclusion of key components in the solicitation document, elaborating on how these components work together to make the process effective within National Information Technology Authority Uganda.
3. National Information Technology Authority Uganda should develop high compliance audits whereby procurement officers should plan to combine all the budgets of the different departments and procure at once as a way of reducing the expenses involved in procurement and this can help to save a lot of money and later improves performance.

5.4 Areas for further research

Prospective researchers and even students are encouraged to research on the following areas;

1. Procurement methods and quality of procurement services in National Information Technology Authority Uganda.
2. Procurement process and performance of National Information Technology Authority Uganda.

REFERENCES

- Agaba, E., Shipman, N. (2014) "*Public Procurement Reforms in Developing Countries: The South Sudan experience*. McGraw Hill ltd
- Arkingstall (2012), "*Determinants of Adopting Risk Management Strategies by Pension schemes in Kenya*" Research paper, JKUAT (Unpublished), Nairobi CBD Campus
- Agaba, E. & Shipman, N, (2012), "*Factors Influencing Procurement performance in Constituency Development Fund (Cdf): Case of CDF Use in Makadara Constituency,*" International Journal of Social Science & Entrepreneurship, 1 (2), 41-55. Sage Publications ltd
- Armstrong, E, 2014), "Human Resource Management: Experiential and Educational Perspectives"- (Unpublished), Nairobi
- Evenett et al, (2014). "*SRC to Release New Public Service Salaries*" Standard Media Group, Nairobi.
- Ebrahim, (2011), "*Public Procurement Reforms in Kenya,*" Presentation to the OECDDAC Conference, 3rd-5th May, PPOA- Nairobi ltd.
- Eei, K. S., Husain, W., & Mustaffa, N. (2012) and Agaba, E., & Shipman, N. (2013). "*Public Procurement and Disposal Manual,*" First Edition, Public Procurement Oversight Authority, Nairobi
- Gichure, (1997). 'Demand chain management in manufacturing and services: web based integration, drivers and performance', *Journal of Operations Management*, 20(6), 729-745.
- Green K. Morton B New S., (2011). Public procurement and EU tendering directives- explaining non-e-sourcing. *International Journal of Public Sector Management*, 19(7), 702-714.
- Gabbard 2013), "Quantitative research for non-profit management", *Non-profit Management & Leadership*, Vol. 169 pp.395-409
- Gattorna, (2013), *Public Service E-contracting Programme: A sourcebook for Corruption Prevention in the Public Service*. Nairobi: Government Printers.
- Guth, 2011). As Narasimhan and Das (2014). The odorant-binding proteins of *Drosophila melanogaster*: annotation and characterization of a divergent gene family.
- Jeppesen R, (2011). *Research methodology; Methods and techniques*. New Delhi; New Age International (p) ltd publishers.
- Kumar, Ozdamar & Ng, 2014; Neely, 2011). "*Government Reviews Public Procurement,*" October Edition, Electronic procurement , International Journal, CIPS, London

- Kostanjevec & Muehle, 2011), "*Corrupt Workers put on Notice*" Nation Media Group, Nairobi.
- Knight, Harland, Telgen, Thai, Callender, & Mcken, 2013; and Facolta di Economia, 2011).
- "*Factors affecting public Procurement performance at the Meteorological Department: Case Study of the Kenya Meteorological Department*, Research paper, JKUAT (Unpublished), Nairobi CBD Campus
- Leenders *et al.*, (2014), "*Proposal and Thesis Writing: An Introduction*," 2nd Reprint, Don Bosco Printing Press, Makuyu. Jossy-Bass Publishers
- Lysons & Farrington 2011), "*How can Local Government Become an Employer of Choice for Technical Professionals?*" *Review of Public Administration*, Vol. 25, No.3.
- Roodhooft and Abbeele (2011) "*Public Officer Ethics Act, 2013*," Supplement No 77, Act No. 3, Government Press, Nairobi
- Tinyu (2011) and Owegi *et al* (2011), "*South Africa Makes Strategic Plans to Simplify Procurement*," December Edition, Electronic procurement , International Journal, CIPS Press, Britain
- Tukamuhabwa, (2012), *Obstacles to public procurement reform in developing Countries*, available on <http://www.wto.org>, on 15th Dec. 2012.
- Telgen, (2013). *Innovation in China's energy*. Center for Environmental Science and Policy. Retrieved 17th may 2012 from <http://pesd.stanford.edu>
- Thomason (2013) , *Public procurement and corruption in Bangladesh. Confronting the challenges and*
- Purchasing & Supply Chain Management: Analysis. Strategy, Planning and Practice* (4th ed.). Australia: Thomson.
- Wanyama (2011) "*Public Procurement and the Economic Partnership Agreements: Assessing the potential impact on ACP Procurement Policies*. Commonwealth Secretariat
- Zsidisin and Sifered, (2014). *Research Methods*, (2nd Edition). Newjersy: Pearson Publishers

APPENDIX A

INTERVIEW GUIDE

QUESTIONNAIRE TO RESPONDENTS

Section A: questionnaire about the profile/demographic characteristics of the respondents.

Instructions: please tick the appropriate position

Gender (Please Tick)

(1) Male _____

(2) Female _____

Age

(1) 20-29 _____

(2) 30-39 _____

(3) 40-49 _____

(4) 50-59 _____

(5) 60 years and above _____

Educational qualification level

(1) Certificate _____

(2) Diploma _____

(3) Degree _____

(4) Masters _____

(5) PhD _____

Years of experience

(1) Less than /Below 1 year _____

(2) 1-4 Years _____

(2) 5-9 years _____

(3) 10 & above _____

SECTION B: ELECTRONIC PROCUREMENT

DIRECTION: rate your ability, knowledge or skill on the following item by ticking the right number corresponding with each question. Key; 1=strongly disagree; 2 = Disagree; 3 = Agree; 4 = strongly agree.

Items on E-procurement	Rank			
E-sourcing				
E-sourcing facilitates the full life cycle of procurement by analyzing how a company spends their money on those assets electronically	1	2	3	4
E-Sourcing gives vendors an opportunity to bid and compete fairly for businesses	1	2	3	4
E-sourcing helps in making better decisions in terms of costs and quality	1	2	3	4
Provides a simple format for submitting data online to the National Information Technology Authority Uganda	1	2	3	4
E-tendering				
E-tendering is used in financial transparency and accountability	1	2	3	4
You always use e-tendering during document distribution and it saves administration time and cost	1	2	3	4
It helps in document storage whereby it reduces physical storage constraints	1	2	3	4
E-tendering enables staff to concentrate on their prime function	1	2	3	4
E-contracting				
It is supportive of public policy priorities such as public sector deficit reduction	1	2	3	4
The National Information Technology Authority Uganda always monitors the contract performance over networks	1	2	3	4
The National Information Technology Authority Uganda has always engaged in removal of paper from the contracting process and its replacement with a variety of digital processes	1	2	3	4
The National Information Technology Authority Uganda has created an electronic public procurement platform which manages the whole contracting process in a simple, safe and clear way	1	2	3	4

SECTION C: PROCUREMENT PERFORMANCE

Direction: Please respond to the options and kindly be guided with the rating system below. Please write or tick your rating in the space provided:

Response Model Rating	Description
Strongly Agree (4)	You agree without doubt at all
Agree (3)	You agree with some doubt
Disagree (2)	You disagree with some doubt
Strongly disagree (1)	You disagree without doubt at All

SECTION C: QUESTIONNAIRE TO DETERMINE PROCUREMENT PERFORMANCE

DIRECTION: rate your ability, knowledge or skill on the following item by ticking the right number corresponding with each question. Key; 1=strongly disagree; 2 = Disagree; 3 = Agree; 4 = strongly agree.

No	Efficiency	SA	A	DA	SDA
1	You always embrace the need for greater quality of services				
2	You always produce solid quality and quantity of work				
3	You always provide a service with minimal wastage of time or resources				
4	You have always been improving on the quality of services in this organisation				
	Effectiveness				
1	You always complete work with deficiencies				
2	You always complete your work in time				
3	You always put in extra hours in order to get the desired results at work				
4	Your always achieve your tasks successfully				
	Service delivery				
1	Dimensions of access to services are always a pre-condition for quality in your organization.				
2	Ensuring availability and access to government services is one of the main functions in your administration				
3	Increasing of inputs has lead to improved performance and enhanced access to services				
4	Service affordability in your department always depend on the clients' ability				