

**ADOPTION OF E-PROCUREMENT AND VALUE ADDITION TO
TANZANIAN PUBLIC INSTITUTIONS
A CASE OF TANZANIA PUBLIC INSTITUTIONS**

By:

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**A Dissertation Submitted on Partial Fulfilment of the Requirements Award
of the Degree of Masters of Science in Procurement and Supply Chain
management (MSc) of Mzumbe University**

2013

Certification

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation/thesis entitled **Adoption of E-procurement and Value addition to Tanzania Public institutions: The case of Tanzania Public institutions**, in partial/fulfilment of the requirements for award of the degree of Master of Science in Procurement and Supply Chain Management of Mzumbe University, Tanzania.

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Acknowledgement

I would like to thank almighty God for seeing me and granting me a great care through taking this dissertation.

I would like to express my warmest thanks to my teacher and project supervisor, Dr Albogast Musabila of the school of Business of Mzumbe University for his steady support, guidance and constructive comments. I am confident to say without his help the goals of this project would not be accomplished. I would also like to convey my deep sense of appreciation to my classmates Mr Mvano Amani, Sumuni Catholic and Judama Suleiman for their encouragement and support.

It is my pleasure to thank my family for being very supportive, understanding and for giving me the courage that I needed to complete this thesis. I wish to extend my heartily thanks to my lovely wife (Zakia Nassor) for her love, encouragement, tolerance, and assistance. Her tolerance for my extended absence at home was very important contribution towards the accomplishment of this thesis

However, it is difficult to acknowledge everybody individually, but I do acknowledge anybody who contribute to the accomplishment of this thesis

Dedication

I, the author of this dissertation, heartily dedicate this thesis to my father (Suleiman A) and my beloved mother (Aziza Mbarouk). This dedication won't end up here till it drops to my sisters and brothers. May God bless this family so as it stands on prayers and flourish in success. It is hard to forget my lovely wife (Zakia Nassor) for her support and encouragement

List of Abbreviation

B2B – Business to Business

B2C – Business to Customer

C2C – Customer to Customer

EDI – Electronic Data Interchange

EPS –Electronic procurement system

ICT – Information and Communication Technology

ISP- Internet Service provider

IT – Information Technology

LDC – Least Developing Countries

NICTBB – National ICT Broadband Backbone

PMIS – Procurement Management Information System

PPA –Public Procurement Act

PPRA – Public Procurement Regulatory Authority

RFX – Request for exchange

SUA – Sokonine University of Agriculture

TAM – Technological Acceptance Model

TCRA – Tanzania Communication Regulatory Authority

TCT – Transactional Cost Theory

TOE –Technological, organizational and environmental

TPB – Theory of Planned Behaviour

TRA- Theory of Reasoned Action

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Abstract

E-procurement adoptions make purchasing activities more effective in terms of both time and cost. In Tanzania the adoption of e-procurement is at infant stage. The focus of this thesis is on adoption of e-procurement and value that can be achieved in Tanzania public institutions.

In recent years, Tanzania has made a significant progress in ICT. Specific examples are on the adoption of mobile technologies, implementation of the national ICT broadband backbone (NICTBB). The ICT infrastructures which enable the government of Tanzania to embark on e-procurement adoption include: national fibre optic cable network, internet service providers (ISP) and internet cafes and increasing the number of mobiles network across the country.

The research model was focused on TOE frameworks which elaborate in details the e-procurement adoption in three perspectives:

1. Organization factors: organization size, top management attitudes characteristics, relative advantage characteristics and user involvement characteristics
2. Technological factors: compatibility characteristics, complexity characteristics, technological infrastructures characteristics, and perceived benefits characteristics
3. Environmental factors: normative pressure, coercive pressure, and mimetic pressure

The research methodology used in the study include the data collection techniques which focus on questionnaire as primary data collection, and secondary data collection involve books, journal and internet search engine like Google scholar. Non probability sampling was used in this study

Keywords: e-procurement, TOE framework, and e-commerce

CHAPTER ONE

INTRODUCTION

1.0 Introduction

In this introduction chapter the researcher introduced the on-going (current) research debates and trends on e-procurement adoption in Tanzania, statement of the problem, the research objectives and research questions. The chapter also discusses the relevance of this study to government and procurement regulatory authority, private entities, and academicians.

1.1 Current debate in adoption of e - procurement

E-procurement is not a new process and there had been several attempts to automate the process of procurement for the buyer using e- procurement systems (EPS), workflow systems and links with suppliers through EDI. It is important that the value creation of e-procurement was spread and emphasised that it is not only a web based platform and that it implicates in some beneficial changes to the procurement process (Mandela, 2007)

E-procurement offered an opportunity of communication, ordering and pricing for supplies, through online transacting (Alan, 2010), However Edie et al (2007) mention the main challenges for most developing countries to adopt e-procurement included;

1. Legal difficulties as one of the main barriers to e-procurement, such as lack of specific legal regulation, different national approaches and validity, enforceability and evidentiary problems
2. IT difficulties , the reason might be due to high costs involved in installing the proper IT system to have all the benefits of e-procurement process
3. Lack of security, Security is a major concern when working on the internet

Most developing and developed countries governments would like to implement public e-procurement technology in such a way, as to enhance transparency and accountability in government procurement processes but the legal, technical and organisational barriers that may result from procurement online are one of the greatest challenges for policy makers (Anelise, 2007)

According to Sijaona (2010), the most key challenges that hinder the adoption of e-procurement in Tanzania included;

1. Policy and Legislative framework - Amend procurement act and/or regulations and other associated laws such as sale of goods act, contract act
2. Institutional structures - Establish necessary structures to implement e-procurement such as national e-procurement committee, project management unit
3. Procurement processes - update existing standard operating procedures and user guides, define and implement standard item codes, establish clear process for blacklisting, improve performance metrics
4. ICTs- Undergo rigorous software selection, strengthen IT support and build capacity, define standards and technical requirement for data centre required for e-procurement
5. People - develop change management and capacity building plan, establish training centres, develop and implement framework for evaluation of effectiveness of training and capacity building programmes

1.2 Statement of the problem

Over past few decades, e-procurement had been widely believed to be an avenue for integrating communities and countries into a global market economy. Tanzania as one of the least developing country had showed a little substantive progress toward the e-procurement application specifically at institutionalization phase (Kabanda, 2012). Governments around the world had set very ambitious goals and are running programmes with considerable financial volume for the implementation of electronic service delivery in the public sector (Georg, 2010).

Before the advent of the internet, procurement functions were perceived by many to be routine and repetitive processes. This perception had been modified by the expanding capabilities of the World Wide Web in recent years. Most organizations used to have separate procurement offices, or preferred to assign people within the individual departments to specific procurement tasks. These processes had been labour-intensive, dominated by paper, thereby making them costly and inefficient.

Various business concerns had found it both appropriate and inevitable to embrace the use of internet facilities to enhance the performance of their tasks (Akintola & Oyediran, 2011)

The increasing need for corporate procurement functions to streamline its processes and create more value to the business is pushing procurement managers to find new ways of making purchasing more efficient. Even though many researchers had found that e-procurement solutions had a major impact in making the procurement process simpler and more efficient, many businesses were still neglecting these technologies (Viljami, 2012).

E-procurement in the public sector had a lot of promise. A government could negotiate good deal with suppliers when it is able to accumulate all of its purchasing and negotiate as an entity. The negotiated agreements when made available in the e-procurement system can be accessed by the end users by logging into the system via the internet. The end users could place the order electronically utilizing the negotiated deals. The e-procurement system when interconnected with an organization's internal financial system minimizes the transaction processing costs. E-procurement via automating several administrative procedures and by enhanced monitoring abilities minimizes opportunistic behaviour among purchasing officials (Ramanathan, 2004)

Lack of abundant and detailed elaborated research and findings on the aspect of e-procurement in Tanzanian context has resulted the government to be late to adopt e-procurement and enjoy the fruits of this new technology to the public sector , How TOE (Technological, Organizational and Environmental) framework could be applicable to address the adoption of this new technology become another challenge for most Tanzania especially public institutions who play a major role of providing the social service to the citizens of Tanzania

A review of the published literature especially from developing countries showed that there is little empirical research conducted in Tanzania focusing on three key

drivers (technological, organizational and environmental) in influencing the adoption of e-procurement. Hence, this research project aimed at filling the gap by focusing on those factors influencing adoption of e-procurement in Tanzania public institutions.

1.3 Objective of the study

1.3.1 General Objective

To assess the adoption of e-procurement and value addition to Tanzanian public institutions.

1.3.2 Specific objectives of the study

- i. To examine the organizational drivers in adoption of e-procurement in public institutions.
- ii. To determine the technological drivers in adoption of e-procurement in public institutions.
- iii. To identify environmental drivers in adoption of e-procurement in public institutions.
- iv. To determine the perceived value of adopting e-procurement in public institutions.

1.4 Research Questions

- i. What are organizational drivers in adoption of e-procurement for public institutions?
- ii. What are technological drivers in adoption of e-procurement for public institutions?
- iii. What are environmental drivers in adoption of e-procurement for public institutions?
- iv. What are perceived value the public institutions can obtain in adopting e-procurement?

1.5 Significance of the study

The researcher believes the study to benefit the following groups:

1.5.1 Government and Procurement regulatory authorities

This research provide understanding to government and policy makers of public procurement in Tanzania the supportive, influencing and accelerating the adoption of e-procurement. The results of the study are likely to encourage the government and responsible authorities to take necessary action to address challenges facing the adoption of e-procurement in Tanzania especially technological challenges, organizational challenges and environmental challenges

1.5.2 Private entities

The research results are expected to shed some light to the private entities on factors which hinders e-procurement adoptions in Tanzania so that they support toward the adoption of e- procurement by improve technological infrastructures, organization factors and environmental factors that affect the adoption of e-procurement in Tanzania

1.5.3 Academicians

This research provides general understanding of e-procurement adoption in Tanzania context. Also the research work provide procurement academicians useful knowledge on technological factors, organizational factors and environmental factors affecting adoption of e-procurement and discover issues which need research on it. This also adds value to the body of knowledge in bridging the gap between theories and practices of the application of e-procurement in Tanzania context.

1.6 Limitations of the Study

As with all other studies in developing countries, this study also had a few limitations

First, the study lacked good sample size, which could be a source of biasness in the study. Therefore, the generalisation of the results of this study was done with great care. Furthermore, the study was carried out in a new field for most Tanzanian public institutions hence the knowledge of participants in e-procurement was not good, so the future study is required.

Second was the political instability, the study was conducted at time when the political situation at Zanzibar was not good, the arising of 'Uamsho' group and other political incidents was likely limit the research study, However the findings was generalised using other regions

CHAPTER TWO

LITERATURE REVIEW

2.0 THEORETICAL STUDIES

2.1 Introduction

This chapter was contained theoretical part, adoption theories, empirical studies and research model. The review of related literature was aimed at providing the necessary framework within which the problems was presented, analysed and interpreted. Comprehensive reviews of the theories had been explained. Those theories explained e-procurement adoption include:

- The Institutional Intervention Theory (King et al, 1994);
- Transaction Cost Theory (TCT) (Williamson,1985)
- Innovation Diffusion Theory (IDT)(Rogers,1983,2003)
- Theory of Planned Behaviour (TPB)(Ajzen,1991) and
- Theory of Reason Action (TRA) (Ajzen and Fishbein,1980)

2.1.1 Briefly introduction of e-procurement

E-procurement adoption defined as the use of IT in procurement activities. The prefix “e” usually denoted something related with ICT and the Internet. e-procurement referred to the use of internet-based (integrated) information and communication technologies (ICTs) to carry out individual or all stages of the procurement process including searching, sourcing, negotiation, ordering, receipt, and post-purchase review (Croom et all, 2004) .

E-procurement became one of the most successful applications in the world. It had been widely adopted by companies seeking better business processes and an improved bottom line. These advantages had not been lost on governments which engaged in extensive buying activities and are major customers for a wide range of goods and services (Yusof, 2010)

The factors affecting adoption of e-procurement in an organization differ from one organization to another, from one country to another, Williams,(2006) argue that the driving factors for adoption of e-procurement depend to the organization, it may be driven by management of the organization, customers of the organization, suppliers of the organization, competitors of the organization and government requirement

2.1.2 Definition of Terms

2.1.2.1 E- Business

E-business defined as internet-enabled tools that facilitate supply chain integration with key suppliers and customers by helping them execute transactions, coordinate and collaborate for achieving better supply chain performance (Stanislav, 2012). E-business was application of telecommunication and information technology that work together for conducting businesses (Naeem & Bashi, 2011).

2.1.2.2 E-commerce

E- Commerce was about doing business electronically. It was based on the process and transmission of data, including text, sound and video. It encompassed many diverse activities including electronic trading of goods and services, online delivery of digital content, electronic fund transfers, electronic share trading, electronic bills of lading, commercial auctions, online sourcing, public procurement, direct consumer marketing, and after-sales service (Jobodwana,2009). E-commerce is narrower than e-business, and focuses only on the buying and selling of products and services on the internet. There were many types of e-commerce such as business between enterprises (B2B), business between enterprises and consumers (B2C) and business between consumers performed through customer to customer (C2C) (Naeem & Bashi,2011). Electronic commerce (e-commerce) was the wireless transfer of business information and transaction via electronic data interchange (EDI), e-mail, electronic bulletin boards, fax machines and electronic funds transfer (Emmanuel,2012)

2.1.2.3 E- procurement

E-procurement defined in a number of ways by different authors as follow:

1. E-procurement defined as the digitalization of important aspects of the purchasing process, such as search, selection, communication, bidding or awarding of contracts (Sun et al,2012)
2. E-procurement meant the integration of technological tools into purchasing activities taking place within supply chains while performing their operations (Hatice & Mehmet, 2012)
3. E-procurement was about using the internet to operate the transactional aspects of requisitioning, authorising, ordering, receipting and payment processes for the required services or products (CIPS, 2009).
4. E-procurement as incorporating all purchasing activities such as purchaser request, authorization, ordering, delivery and payment by utilizing electronic means such as internet, web technology and e-commerce (David, 2009)
5. E-procurement defined as purchasing through internet and other information networks. (Malcom, 2009)
6. E-procurement as the use of information technologies to facilitate business to business (B2B) purchase transactions for materials and services” (Wu et al., 2007).
7. E-procurement as integration, management, automation, optimisation and enablement of an organization’s procurement process, using electronic tools and technologies, and web-based applications (Tatsis et al., 2006).

For the purpose of this research e-procurement defined as the digitalization of the purchasing activities, such as search, selection, communication, bidding or awarding of contracts

2.1.2.4 E- Procurement system (EPS)

That referred to a system which automates all activities in procurement process such as storing requests, approval management, authorization and interfacing with company financial system (Damavandi, 2011). Joni, (2009) defined e- procurement

system (same as electronic ordering system) as a system based on computer software and technologies. It included all the phases of a purchasing process, for example from the need of purchasing to purchasing orders and receiving products

2.1.2.5 Value

Referred to the total value created in e-procurement transactions regardless of whether it is the firm, the customer, or any other participant in the transaction who appropriates that value (Mandela, 2007)

2.1.3 Components of e-procurement

Different authors came up with different view on components for adoption of e-procurement:

2.1.3.1 E-sourcing

E-sourcing defined as process of finding new possible suppliers using the internet in general or more specific marketplace. It identified new sources of supply increases the competitive forces during the tendering process (Paulo, 2009). E-sourcing discovered and accessed new suppliers through internet and web technology (Damavandi, 2011). e -sourcing or contract management encompassed all aspects of the commercial process from market analysis, advertising, tendering including auctions, evaluation, contract negotiation, award and management (MoD e-procurement Strategy and Plan, 2008 -2012). E-sourcing was one of the procurement activities which can be defined as “the process of determining long-term demand requirements in goods or services, finding sources to fulfil those requirements through a faster and more efficient way, selecting suppliers to provide the requirements, negotiating the purchase agreements through a web-based platform and managing the supplier’s subsequent performance (Mandela, 2007)

2.1.3.2 E-tendering

E-tendering defined as the process of sending request for exchange (RFX) to suppliers and receiving the responses using the Internet. The data concerned e-tendering focused on the product or service. Here, it was also possible to have an

initial screening process where a selected number of suppliers qualify for the negotiation phase. That process phase did not include closing of the contract. Took place in the invitation to tender phase of the procurement process (Paulo, 2009). According to Damavandi, (2011), e-tendering requested of information and price from suppliers and receiving feedback electronically. Daniel, (2009) elaborate e-tendering as the capability for the organisation to receive tender submissions from potential suppliers.

2.1.3.3 E-awarding

That involved secure tender opening (e.g being only able to open tenders which had been submitted by the closing date and time), tender evaluation and tender award. That was facilitated by electronic procurement system (Daniel, 2009)

2.1.3.4 E-contracting

That involves the establishment of an agreement with suppliers and can result of e-tendering and e-award stage (Daniel, 2009)

2.1.3.5 E- Auctioning

E-reverse auctions enabled the purchasing company to buy goods and services from the supplier that had the lowest price or combination of lowest price and other conditions as well via internet technology. The auction was most often traded in real-time and ends in a closing bid between the buyer and the supplier. Took place in the negotiation phase of the procurement process. (Paulo, 2009)

2.1.3.6 E-Informing

E-informing is a part of e-procurement that did not involve transactions or call offs but instead it handled gathering and disseminating of purchasing related information. E-informing is hard to link to one single phase in the procurement process. It took place anywhere in the procurement process (Paulo, 2009)

According to Alan, (2010) different ideas as the tools to facilitate the e- procurement in the supply chain

Table 2.1 Tools for facilitation e-procurement

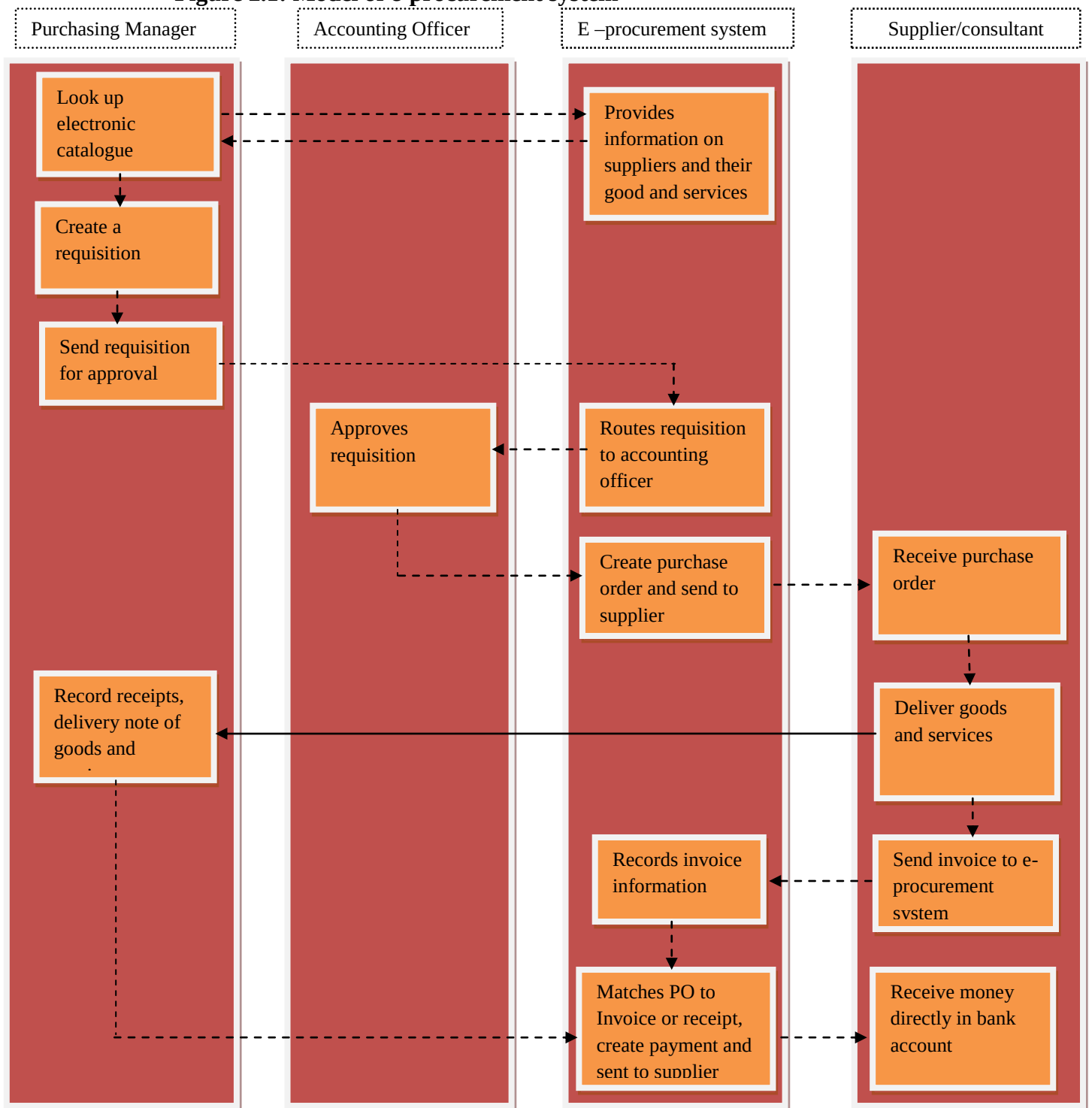
Tools	Characteristics
1. Buying/ RTP applications (buy-side e-procurement)	An application hosted by the buying firm to allow users to search for products, place and track orders, receive and pay for purchases. Uses catalogues provided by suppliers or draws product data from supplier sites through punch-out (retrieving data from web sites). Automates the 'requisition to pay' (RTP) cycle.
2. Supplier catalogue sites (sell-side e-procurement)	Web sites hosted by an individual firm which displays its product range in an electronic catalogue. Allows customers to order online, usually using point and click system, linked to shopping basket, check out etc. Designed by suppliers as a channel to market.
3. Electronic marketplaces (many-to-many e procurement)	Web portals which offer an online store for buyers and suppliers to conduct transactions. Suppliers offer content, allowing buyers to browse in multiple catalogues on one site. Marketplaces may be 'horizontal' in offering a wide range of products such as office supplies, or 'vertical', related to a specific industry or sector
4. Reverse auctions (buyer-controlled online tenders)	Online, real time bidding events where buyers offer a contract to specified suppliers, who make reducing bids in order to gain the business. The winner in principle is the lowest bidder, although a range of criteria may be used to award the contract. Terms and conditions for the event are specified by the buying firm

5. e-RFX (buyer analysis support)	A suite of applications which support buyer analysis of supply markets and suppliers. Includes search tools, supplier rating and scoring systems, bid analysis tools, evaluation techniques. Designed to improve decision-making by buyers
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2.1.4 E-procurement system model

E-procurement system referred to a system which automates all activities in procurement process such as storing requests, approval management, authorization and interfacing with company financial system (Damavandi, 2011). The system offered a secure, efficient and transparent preparation and administration of all tender-related documents, removing unnecessary paper work and providing secure data flow throughout the entire process. Likewise, it guaranteed the secrecy of offers, and at the opening time of the procedures, allowed the simultaneous publication of the offers. Moreover, the e-procurement system generates reports enabling ulterior inspections, ex post monitor of procedures and reducing the possibility of corruptive deviations. It constructed in such a way as to maintain at all times a copy of all data and all actions performed on it (Kashta, 2009). The e- procurement system reduced the application time, facilitated and standardized the process of introduction with the tender conditions (American Chamber of Commerce in Albania, 2010).

Figure 2.1: Model of e-procurement system



Sources: (Adopted from Samir, 2008 to suit Tanzanian environment)

2.1.5 Benefits of e-procurement

Since the Internet arrived on the scene as a supply management tool in the mid-1990s, enterprises tried to gain the benefits e-procurement like: cost reduction, process streamlining, improved contract compliance, increased spend under management, and more (Aberdeen Group, 2005). The following were main benefits identified by different authors:

Table 2.2: Benefits of e-procurement from different Authors

(Mibenge & Okoye, 2007)
▪ Transactional benefits (Automated purchase to pay process & Automation of p-card purchasing) ▪ Compliance benefits (Reduced maverick spend) ▪ Management Information benefits(Improve quality of accounting) ▪ Price benefits(strategic sourcing) ▪ Payment benefits(Electronic payment of invoice)
(Gunasekaran and Ngai, 2008)
▪ Sales Growth ▪ Operational efficiency ▪ Negotiable Transparency ▪ Longer buyer-supplier relationships ▪ Gain of competitive advantage
(David, 2009)
▪ Reduction in cost and procurement cycle time ▪ More effective budget control by limiting the expenditures and enhanced reporting ▪ Minimizing ordering and administrative errors

▪ Enabling originator to concentrate on strategic aspect of purchasing ▪ Decreasing the product price ▪ Enhanced information management ▪ Better payment process (if it is integrated with e-procurement)
Joni, 2009 ▪ Reporting ▪ Reporting ▪ Centralized purchasing ▪ Transparency of purchasing and costs ▪ Corporate-wide cost category control ▪ Budget overdraft control ▪ Reduced mistakes and manual work
(Chipiro ,2009) ▪ Price reduction ▪ Improved contract compliance ▪ Shortened Procurement cycle times ▪ Reduced administration costs ▪ Enhanced inventory management ▪ Improved visibility of customer demand ▪ Improved visibility of supply chain ▪ Reduced operating and inventory costs ▪ Negotiated unit cost reduction ▪ Increased accuracy of production capacity ▪ Enhanced decision making
(Hatice & Mehmet, 2012) ▪ Reduce order cycle times ▪ Simplify purchase payment ▪ Expand supplier bases ▪ Reduce paperwork ▪ Eliminate order errors

- Inventory reduction
- Productivity and/or service improvement
- Save time
- Reduce cost
- Decentralize procurement management
- Improved communication and collaboration with suppliers
- Improved planning and control
- Improved effectiveness of purchasing process
- Reduction of purchase department size and number of functional areas involved in purchasing process
- Allowing the purchasing department to concentrate on more strategic tasks

(Aberdeen Group,2005)

- Reduce transaction costs
- Improve process efficiency
- Reduce or eliminate “maverick” buying
- Increase contract compliance
- Reduce cycle times
- Save inventory costs

2.1.6 Risk of e-procurement

E-procurement had a lot of benefits but still it had expected growth rate which had been revised downwards due to risk.

2.1.6.1 Internal business risks: Adopting e-procurement system in a firm necessitated the integration of this system with another information infrastructure included systems such as accounting, human resources, asset management, inventory management, accounts payable, production planning, and cash management systems (Hatice & Mehmet, 2012). Companies were uncertain about having the appropriate resources to successfully implement an e-procurement solution. Implementing an e-procurement solution not only required that the system itself successfully performs the purchasing process, but also it integrated with the existing information infrastructure (Parida et al, 2006)

2.1.6.2 External business risks: E-procurement solutions needed not only interact with internal information systems, but also needed to collaborate with external constituencies; mainly customers and suppliers. External constituencies needed to develop internal systems that facilitate the communication through electronic means, an issue that demanded technology investments as well as incentives for these constituencies. For e-procurement technologies to succeed, suppliers must be accessible via the internet and must provide sufficient catalogue choices to satisfy the requirements of their customers. Suppliers, especially in low margin industries, may be hesitant or even unable to meet such demands without guarantees of future revenue streams (Parida et al, 2006, Hatice & Mehmet, 2012)

2.1.6.3 Technology risks: Companies also fear the lack of a widely accepted standard and a clear understanding of which e-procurement technologies best suit the needs of each company. The significance of this risk factor seemed to suggest the need for clear and open standards that would facilitate inter-organization e-procurement technologies. Without widely accepted standards for coding, technical, and process specifications, e-procurement technology adoption was slow and failed to deliver the benefits as expected (Parida et al, 2006, Hatice & Mehmet, 2012)

2.1.6.4 E-procurement process risks: E-procurement transactions were made through electronic forms which are transferred between buyers and sellers. In other words, everything was dependent on electronic data interchange. Therefore, the security of that system had to be maintained by the two parts of this commerce. Unauthorized malicious interventions had to be detected and counteracted by the firm (Hatice & Mehmet, 2012). Organizations must be confident, for example, that unauthorized actions would not disrupt production or other supply chain activities when committing to e-procurement technologies (Parida et al, 2006)

2.2 Adoption Theories

E-procurement studies in least developing countries (LDC) had been few, and were typically generalised from other developing country contexts. In least developing countries (LDC) were a category of states that portray

different characteristics from other developing countries and thus face specific challenges. To understand these characteristics which were at the heart of whether in least developing countries (LDC) would adopt e-procurement or not, a thorough understanding of technology adoption and structural behaviour and patterns in least developing countries (LDCs) is required (ECIS, 2010). For the purpose of this research the researcher was use both organizational and individual adoption theories. The research was conducted in public institutions which were characterized by organization and individual characteristics.

2.2.1 Organizational Adoption Theories

Organizational adoption decisions were concerned with not only the adopted innovation but also the adopting organization. The factor model suggests that when making adoption decisions, an organization needs to straddle simultaneously innovation and organization dimensions because the equality of technological superiority and fit with the adopting organization was not automatically guaranteed. Structured, members' attitudes toward technology, and decision making practice be important organizational characteristics of adoption decision making (Frambach, 1999)

2.2.1.1 Institutional theory (IT)

Institutional theory was deemed to be the most appropriate theoretical lens to understand the factors that enable the adoption of e-procurement in an organization and suited to understand the behaviour of public organization. An institution was any standing social entity that exerts influence and regulation over other social entities (King et al, 2003). An institution that adopt new technology like e-procurement are government authorities, international agencies, professional and trade industry association, research-oriented higher education institutions, trend setting corporations, multinational corporations, financial institutions, labour organization and religious institutions.. The model below adopted from King et al, (2003) show the dimensions of institutional action toward adoption of e-procurement into supply push side and demand pull side.

Table: 2.3: Dimensions of Institutional intervention

	SUPPLY PUSH	DEMAND PULL
INFLUENCE	KNOWLEDGE BUILDING Funding of research projects KNOWLEDGE DEPLOYMENT Provision of education services SUBSIDY Funding of development of prototypes INNOVATION DIRECTIVE Direct institutional operation of production facilities for innovation I	KNOWLEDGE DEPLOYMENT Training programs for individuals and organizations to provide base of skilled talent for use SUBSIDY Procurement of innovative products and service MOBILIZATION Programs for awareness and promotion II
REGULATION	III KNOWLEDGE DEPLOYMENT Require education and training of all citizens SUBSIDY Modification of Legal, administrative or competitive barriers to innovation and trade STANDARDS Establishment of standards under which innovative activity might be encouraged INNOVATION DIRECTIVE Establishment of requirements for investment in R&D by organizations	IV SUBSIDY procurement support for products and process that facilitate adoption and use STANDARDS Require conformance with other standards that essentially mandate use of particular products or process INNOVATION DIRECTIVE Require that specific innovative products or process be used at all times

Source: King et al, (2003)

King et al, 2003, divided the cell into four quadrant with the specific action/strategies, forced that an organization to ensure the adoption of e-procurement

Institutional Theory (IT) divided the organization into four main quadrants which were Influence –supply push quadrant, Influence-Demand pull, Regulation – Supply push and Regulation-Demand pull. Influence in an institution meant exerting

of persuasive control over the practice, rules, and belief of those under the institutions. Supply push meant the organization produces innovative products which by any means need to adopt new technology (King et al., 2003). The following were the actions which should be implemented under four above quadrants:

- **Knowledge Building:** It was undertaken to provide the base of scientific and technical knowledge required to produce and exploit innovation. Research projects used as the main tool to create knowledge in an organization. The organization directly or indirectly funded knowledge building programmes in order to facilitate the innovation and adoption of e-procurement
- **Knowledge Deployment:** Stimulation of dissemination of new knowledge either in the form of knowledgeable individuals and organization or in the form of repositories of knowledge in schools and libraries. The major objective of knowledge deployment was to stimulate the dissemination of new knowledge (i.e. e-procurement) among adopting organisations (King et al., 1994).
- **Subsidy:** A subsidy provided whenever an institution uses its resources or authority to defray the otherwise unavoidable costs or risks to innovators and users in the process of innovation and diffusion in use. It targeted activity to achieve a specific end. The government may set aside special funds and other incentives like provision of electrical power and training to enhance the adoption of e-procurement
- **Mobilization:** Basically it meant the encouragement of decentralized actors and organizations to think in a particular way with respect to an innovation. The most common instruments for mobilization were promotion and awareness campaign. Building awareness influences to a large extent the decision to adoption of e-procurement in an organization.
- **Standard Setting:** These were form of regulation aimed at constraining options of decentralized actors and organizations in line with larger social or institutional objectives. They had voluntary or a force of law. Standard appeared as instruments for institutional intervention, in innovation in several

ways. They did stimulate or speed up investment in innovation (i.e. e-procurement)

Innovation Directives: A command to produce innovations, to use them, or to engage in some activity that would specifically facilitate production and/or use. Some forms of innovation directives included to require organizations to alter their structures or operations in way that affected innovation and diffusion, establishment of requirements for investment in R&D by organizations and require that specific innovative products or process be used at all times. A government through its statutory power can provide specific norms that regulate the adoption of e-procurement; this was seen in new Public procurement Act of 2011 under section 105

2.2.1.2 Transaction cost theory (TCT)

Transaction cost theory had been developed to facilitate an analysis of the “comparative costs of planning, adapting, and monitoring task completion under alternative governance structures”. The unit of analysis in TCT was a transaction, which “occurred when a good or service was transferred across a technologically separate interface (Williamson, 1985). The actual intensity of e-procurement application under any circumstance depended on the specific transaction circumstance. Transaction cost theory was how the organisation would go to reduce the transaction related costs. Under this theory three characteristics were taken into the consideration:

- Asset specificity dealt with the extent specific transaction and uniqueness of asset for specific transactions, asset specificity affected the transaction because of the risk derived through opportunistic behaviour. The factors were deeply interdependent and when one increased or decreased, this variation required analysis in relation to the effects reflected in the interdependencies among all of the various factors.
- Uncertainty it was related to technological changes and complexity of the e-procurement that the government/organisation would enter into it.

- Frequency, high frequencies of transactions especially routine items would lead to adoption of e-procurement (Kraljic,1983)

The theory focus more on how the government engaged into e-procurement by reducing the cost of transaction in an effectively manner. The application of e-procurement in relation to this theory focuses more on the characteristic where there is a low in asset specificity for each transaction done at the organisation as well as low uncertainty of the technological changes to lead more gain by shift procurement activities from decentralised layer of public hierarchies toward transparency market. According to transaction cost approach, a higher transaction frequency provided higher incentives for both buyers and sellers to improve their coordination. As such e-procurement application in the organisation decreased transaction cost by increase the potential benefits (Pani and Agrahari, 2007).Williamson (1985) argued that two human and three environmental factors led to transactions costs arising. The two human factors were: Bounded rationality and opportunism Bounded rationality means humans were unlikely to have the abilities or resources to consider every state-contingent outcome associated with a transaction that might arise. Opportunism: Humans will act to further their own self-interests

2.2.1.3 Innovation diffusion theory (IDT)

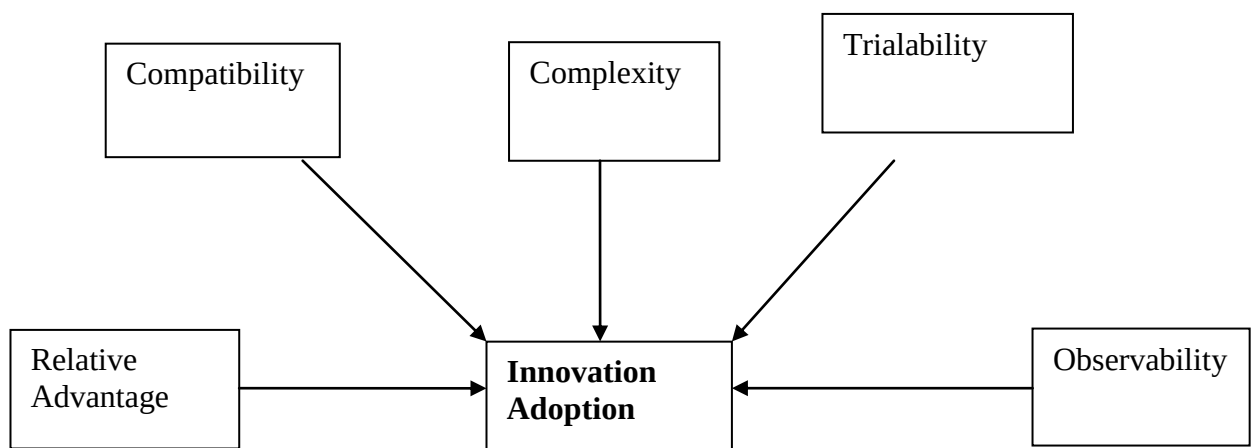
Roger, (1983& 2003) explained the process of innovation diffusion as one which was dictated by uncertainty reduction behaviour amongst potential adopters during the introduction of technological innovations (i.e. e-procurement). Even though innovations typically offer its adopters novel ways of tackling day-to-day problems, the uncertainty as to whether the new ways would be superior to existing ones presents a considerable obstacle to the adoption process. To counter this uncertainty, potential adopters were motivated to seek additional information, particularly from their workplace peers (Brancheau & Wetherbe, 1990)

Rogers (1983, 2003) stated that the adopters of any new innovation or idea could be classified into one of five categories: innovators, early adopters, early majority, late majority, and laggard.

Rogers's model suggested that innovations should differ fundamentally from existing choices in order to shape potential for adoption. These differing aspects, which Rogers emphasized as being important for adoption, were listed below (Dodgson, Grann, & Salter, 2008).

- Relevant advantages: The greater the advantages compared to existing alternatives, the better and faster the adoption. Rogers defined these criteria with aspects of economic profitability, low initial cost, social prestige, time & effort savings
- Complexity of innovation: If an innovation was difficult to understand or use it will have negative effects on diffusion.
- Trialability of innovation: The possibility to experiment with and to get experience from an innovation. At an early stage, when the diffusion had just started, this can only be done on a limited basis, something which influences what kind of consumer profiles the first to adopt an innovation must have. Late adopters can rely on experience and knowledge from early adopters.
- Observability: The degree to which the usability and result of an innovation could be observed. Innovations which did not have clear visible benefits and results would be adopted slower than those with obvious benefits.

Figure 2.2: Innovation diffusion theory (IDT)



Source: Roger, (1983, 2003)

2.2.2 Individual Adoption Theories

Organizational innovations that had to be incorporated in the work processes of organizational members were of little value if they were not used or complied with. An innovation must be accepted by its target “user” group in order to realize the benefits the organization intends to realize (Bhattacharjee, 1998). Hence, it was important to assess the acceptance of innovations at the level of organizational members because if acceptance among the target group was lacking, the desired consequences cannot be realized and the organization may eventually discontinue the innovation adoption process. There were many examples of organizational innovations that only succeed with the acceptance of organizational members. Some specific cases were computer technology for sales and marketing professionals, medical technologies for health care (Frambach, 1999)

2.2.2.1 Theory of reason action (TRA)

Ajzen and Fishbein, (1980) developed a versatile behavioural theory called Theory of Reasoned Action. This theory detailed the factors and inputs that result in any particular behaviour. Very simply, the model looks like this:

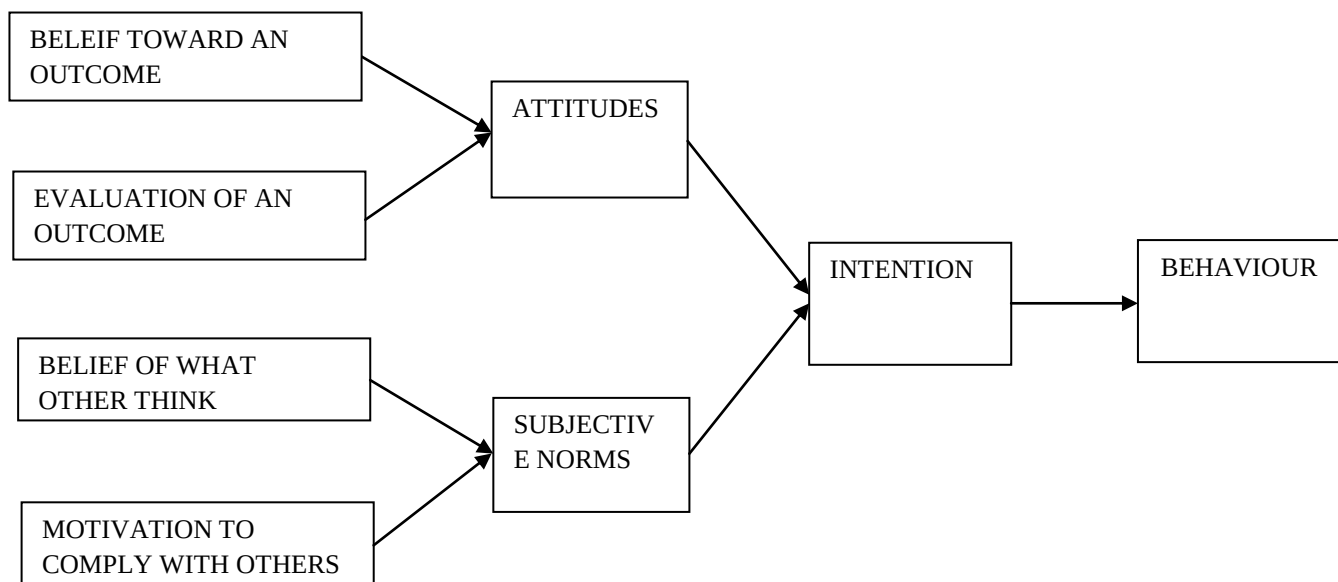


According to TRA, an individual’s actual behaviour was directly influenced by his/her behavioural intention to use. Affected by individual’s attitude towards that behaviour and subjective norm, Attitude defined as “an individual’s positive or negative feelings about performing the target behaviour” Whereas, subjective norms defined as “the individual’s perception that most people who are important to him think he should not perform the behaviour in question” (Singh and Kumar, 2011)

According to TRA an individual’s behaviour (e.g. acceptance of e- procurement system) is directly influenced by behavioural intention which in turn is affected by that individual’s attitude towards that behaviour and subjective norm (Rahim, 2008)

From e-procurement adoption perspective, subjective norm and attitude might be important factors in helping to study an individual behaviour in an organizations. It must be noted that TRA was concerned only with behaviours and not with the outcomes as a result of these behaviours. Therefore, the TRA model might be helpful in studying factors affecting behaviour that might lead to adoption of e-procurement, it did not provide variables to study the consequence of these behaviours – i.e. Whether they encouraged adoption or inhibit adoption (Sheppard, Hartwick, and warshaw, 1989)

Figure 2.3: Theory of reasoned action model



Sources: Ajzen and Fishbein, (1980)

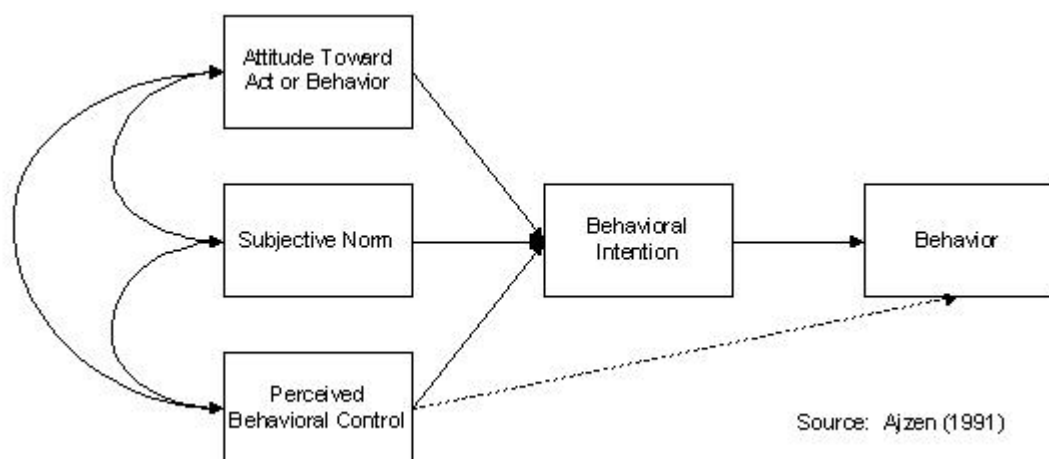
2.2.2.2 Theory of planned behaviour (TPB)

The Theory of Planned Behaviour (TPB) was also developed from the Theory of Reasoned Action (TRA). Ajzen (1985, 1991) extended TRA by adding perceived behavioural control to the original TRA mode as an additional determinant of intention and behaviour (Kittipong, 2008). TPB posited that individual behaviour was driven by behavioural intentions where behavioural intentions were a function of an individual's attitude toward the behaviour, the subjective norms surrounding the performance of the behaviour. Attitude toward the behaviour defined as the

individual's positive or negative feelings about performing behaviour. It determined through an assessment of one's beliefs regarding the consequences arising from behaviour and an evaluation of the desirability of these consequences.

A central proposition of TPB received considerable empirical support, in the context of e-procurement usage the users' actual behaviour (B) determined by their behavioural intention (BI) to use the e-procurement. Those were people who tended to better adopt e-procurement when they had more intention to use it. Equally important was another proposition about the so-called perceived behavioural control (PBC) that the actual usage behaviour was also affected by whether the users had perceived sufficient control of capability and resources necessary to adopt the e-procurement (Chen et al, 2008)

Figure 2.4: Theory of planned behaviour model



2.3 EMPIRICAL STUDIES

2.3.1 Introduction of e-procurement in Tanzania

Tanzanian public procurement Act of 2011 would enable introduction of e-procurement in the country. To enable that, Government had to amend the determination, developing, introducing, maintaining and updating systems to support public procurement by means of information and communication technologies (PPRA, 2010). Implementation of 2003 policy of building National ICT Broadband Backbone (NICTBB) across the country was another critical driver toward adoption of e-procurement in Tanzania. Kowero (2012) argued that National ICT Broadband Backbone(NICTBB) would deliver several advantage in the country but the main focus was to enhance E-government services which mean to include e-services comprising of e-education, e-schools, e-learning, online studies, e-health, Tele-medicine, e-agriculture, e-tourism, e-procurement, and other applications such as video conferencing .

In Tanzanian Procurement Regulatory Authority some new features have been used since 2010 in PPRA website as the main indicator of evolution of e-procurement, those including Tender portal where suppliers can view all tender available, access to information concerning the award of contracts from different procuring entities (PEs) and PMIS-Procurement management information system. The system enables e-checking and e-monitoring of procurement processes; it is a web-based system for online submission of annual procurement plans and reports to PPRA (PPRA, 2010)

Figure 2.5: PPRA Tender Portal



Advanced Search for Open Tenders

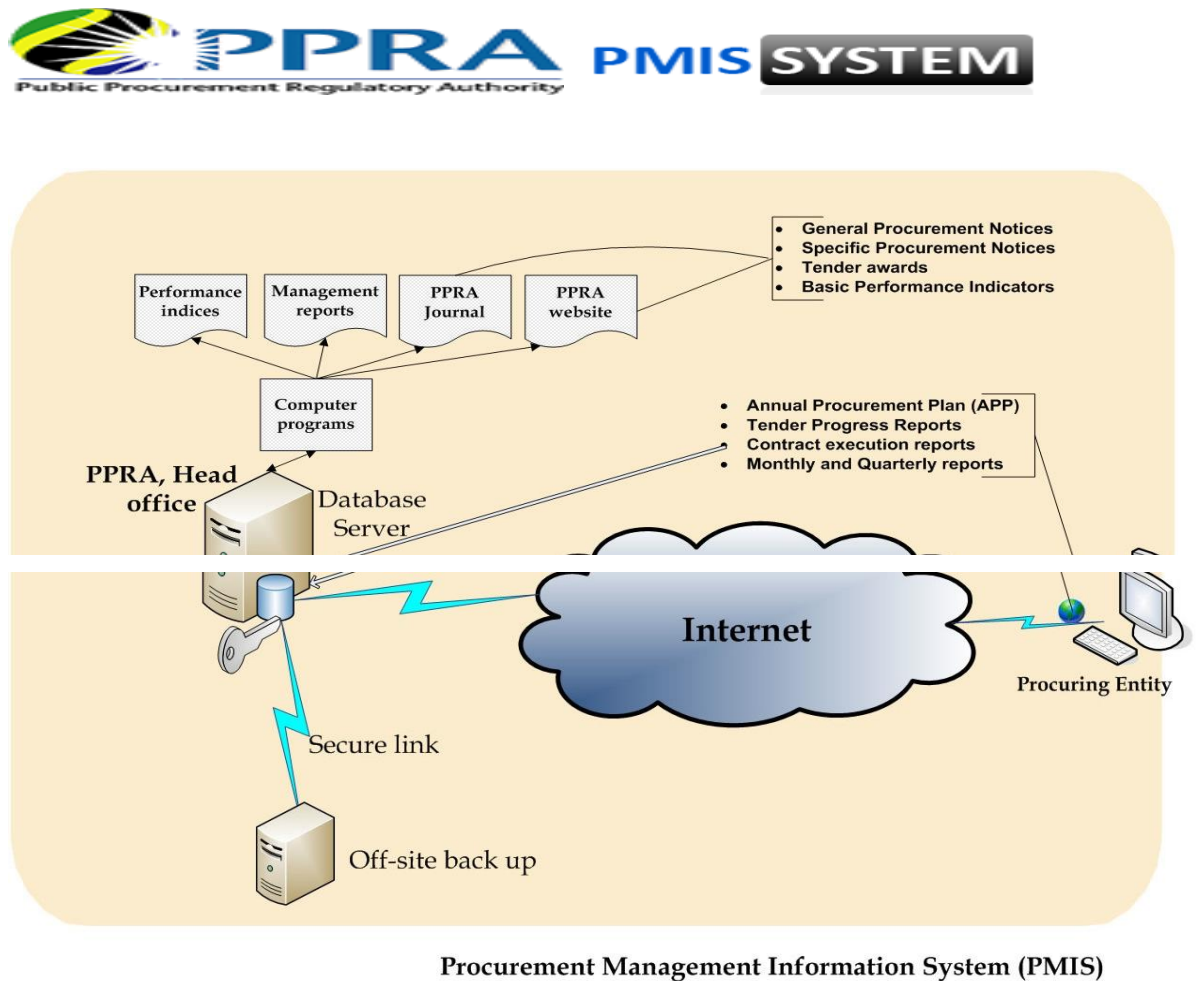
PE Category	All PE Categories	PE Name	
Tender Category	All Tender Categories	Eligible Firms	All Firms
Deadline From		Until	
			Search Tenders

Summary of Volume of Awarded Contracts (TSHs)					Select by Financial Year	All Financial Yrs
	Goods	Works	Non Consultancy	Consultancy	Disposal of Public Assets	Total
Government Ministries	11,479,419,580	33,799,664,455	1,790,345,366	43,061,470,317	0	90,130,899,717
Local Government Authorities	26,917,500	375,515,920	102,969,896	32,040,000	0	537,443,316
Parastatal Organizations	970,117,296,886	16,634,519,740	3,679,910,911	11,825,461,673	172,330,112	1,002,429,519,322
Government Agencies/Authorities	128,745,294,930	3,876,970,145,242	349,820,910	46,745,915,922	0	4,052,811,177,004
Independent Departments	38,301,136,685	180,595,096	428,903,388	4,013,944,910	0	42,924,580,079
Regional Administrative Secretariats	130,902,120	4,615,368,160	103,917,480	0	0	4,850,187,760
Total	1,148,800,967,700	3,932,575,808,613	6,455,867,951	105,678,832,822	172,330,112	5,193,683,807,198

[For More details about Awards please click here](#)

Source: PPRA website

Figure 2.6: Procurement Management Information System (PMIS)



Source: PPRA website

2.3.2 Tanzania Infrastructures and adoption of e-procurement

In recent years, Tanzania had made a significant progress in ICT and adoption of e-procurement. The government was reporting the completion of Phase I of implementing fibre optic broadband network in the country about 8,060 Km. (Yonazi, 2012). The Technological infrastructures which enabled the Government of Tanzania to embark of e-procurement adoption was:

2.3.2.1 National fibre optic cable Network

In 2003, the Government of Tanzania started a National ICT policy which among other issues included the application of ICT in the Government services like e-

procurement, the embarked on the National information and Communication Technology Broadband Backbone (NICTBB) Project, the NICTBB began in 2009 with an aim was of creating service point at all regional and district headquarters as well cross border connections for all neighbouring countries. By June 2009, the first phase was completed with a network reach 16 regions and phase II covering the central and southern parts of the country with connections to Malawi and Zambia commenced in August 2010. The installation of the National Fiber Optic Broadband Backbone connectivity would enable able to get fast, reliable and affordable internet connections (Kowero, 2012).

2.3.2.2 Mobile networks

The number of licensed telecommunications operators increased from 5 in 2003 to 62 in 2009. Most of these were issued under the Convergence Licensing Framework (CLF), which the TCRA effect in 2006 (TCRA, 2011). Voice subscribers (mobile and fixed-line) increased from about 1.5 million in 2003 to 17 million in 2009, while tele-density increased from 4% to 43% during the same period (Mary & Bitrina, 2010), According to TCRA, (2011), the Tanzania telecommunications market had been characterised by huge growth in mobile markets which contrasts with relative stagnation in the fixed line sector. The market was very competitive with the following operational service providers:

- Fixed network operators:
- Tanzania Telecommunications Company Limited & Zanzibar Telecommunications Limited which include Vodacom Tanzania Limited,
- MIC Tanzania Limited,
- Airtel Tanzania Limited,
- Benson Informatics Limited,
- Dovetel (T) Limited

2.3.2.3 Availability of Internet Service Providers (ISP) and Internet Cafes

In Tanzania access to the Internet had increased considerably in recent years, however, much had to been done to reduce costs and improve the quality of the

services since affordable access was a key to development. Internet access was also provided via access points in schools, hospitals and offices of local government. Presently, increased demand for internet access had resulted in growth of Internet cafés, especially in the major cities like Dar es Salaam. Due to an absence of statistical records it was hard to find out the exact number of these cafés. Estimates vary widely from 15 to more than 1000 cafés (Nnafie, 2002)

2.3.3 Challenges facing Tanzanian public institutions

Liang, (2007) and Mark, (2011), identified several challenges that hinder the adoption of new technology in Tanzania especially ICT which were the main driver for e-procurement adoption. Those were included:

- **Financial challenges** -Cost of connectivity via VSATs was high. Strategies to reduce costs of connectivity and bandwidth use must be pursued, more efforts were required to ensure greater outreach, and poor community participation was a point of concern.
- **Organisational challenges** - Technical support for tele-centres is often inadequate, marketing of services had been limited. Technical challenges- Telephone lines were often noisy and disturb connections, frequent thunder strikes could damage equipment, Technical support for troubleshooting was lacking, Speed of the internet access is often slow, and a strict anti-virus policy needs to be in place.
- **Cultural challenges**- Resistance to change is reported in some communities, Gender imbalance in services, Language is often a barrier, Content development and availability, Computer literacy was also often a barrier .
- **Connectivity**: Like many African countries, Tanzania suffers from poor infrastructure for communications, power and transport. Broadband communications were not yet available in much of the country, while the lack of power supply in rural areas makes it difficult to ensure communication links.
- **Content**: As in other African countries, the amount of local content available on the internet was limited. Much of the Tanzanian content that was available

is in English rather than Kiswahili. It was infrequently updated, limiting its value to local users and leading to significant user dissatisfaction.

- **Organisation:** There were weaknesses in the quality of leadership, planning, organisational momentum and implementation of ICT projects which had been undertaken. This weakness at a project level matches the failure, at national and sector level, to translate policy ideas into implementation strategies.
- **People:** There were three main challenges for the people of Tanzania: many Tanzanians, especially in rural areas and local government offices, do not have adequate skills and awareness to operate computers and other ICT equipment, government and other organisations also lack skilled personnel, older people, including some decision-makers found it hard to grasp the potential of ICTs to transform their areas of activity (Mark, 2011)

2.3.4 Current e-procurement challenges

Based on literature read, the researcher had categorized the challenges facing Tanzania in adopting e-procurement as:

2.3.4.1 Policy framework challenge

The main policies guiding developments in the telecommunications sector were the National Telecommunications Policy (1997), the National ICT Policy (2003), The National Postal Services Policy (2003) and the National Information and Broadcasting Policy (2003). Lack of an overall ICT Policy and poor harmonization of initiatives had previously led to the random adoption of different systems and standards, unnecessary duplication of effort and waste of scarce national resources on the one hand, and lack of strategies for the utilization of ICT as a driving force for national development on the other. The ICT policy articulates ten main focus areas in harnessing ICT in Tanzania: strategic ICT leadership, ICT infrastructure, ICT industry, human capital, legal and regulatory framework, productive sectors, service sectors, public service, local content and universal access (URT, 2003).

2.3.4.2 Regulatory framework challenge

The main challenge in the regulatory environment was building capacity to maintain a proactive legal framework that could keep pace with the rapidly changing telecommunication technology and e-procurement environment. The areas that needed attention included data access rights, privacy protection, computer frauds & crimes, security and privacy of e-transactions, establishment of rules governing e-transactions, and delivery of e-opportunities to the wider population. Tanzania Communication Regulatory Authority (TCRA) had been instrumental in the development of the Electronic and postal communications Bill, which had provisions for these (Mary & Bitrina, 2010). Legal and regulatory framework in developing countries was far behind the technology.

2.3.4.3 Cyber security challenge

Cyber security includes threats to data, equipment, networks, and people, and respective measures intended to address them. Cyber security becomes even more important as ICT inventions and innovations are increasing and advancing in Tanzania. The legal environment in Tanzania is still inadequate for cyber security in the country. This is because the existing laws were developed before the development of computer technology. The laws were made to facilitate the traditional paper based business environment. This situation posed a serious challenge to Tanzania to accommodate modern cyber crimes such as fraud, theft of data, laundering, transmission of harmful codes, unauthorized access to information, impersonation (Yonazi, 2012). Security was a major issue for all kinds of e-business and m-business applications. In emerging countries like Tanzania this problem was exacerbated by insufficient and out of date legal system (Pani and Agrahari, 2007). Tanzania needs to fast track the development and enactment of a comprehensive legal framework to ensure a safer cyber Tanzania (Yonazi, 2012). That could be achieved by;

- Adopting an effective legal framework to combat cybercrime and other misuses of information technology,
- Enact enforceable cyber laws in a well-defined geographical boundaries that are either national or regional,

- Fostering international cooperation, information sharing, and investigative assistance and
- Ensure the involvement of relevant stakeholders in cyber law initiatives through international cooperation framework.

Advancement of the availability of fibre optic connection in the country provided new cyber security challenges. The challenges included the increase of opportunities for utilizing the power of fast fibre connectivity to commit crimes and the possibility of vandalizing the fibre cable itself. So far, reports on the increase of cyber crimes due to the implementation of the National ICT Broadband Backbone (NICTBB) were still unavailable (Yonazi, 2012)

2.3.4.4 Procurement legal framework challenge

The basic commercial laws in Tanzania are derived from the 19th century. The laws were designed to facilitate paper-based transactions. Despite the changes and regulatory reforms made by the country since independence, most of the laws enacted since British Colonial rule before the 1960s were still in force. Regulatory steps to secure electronic transactions such as digital signatures, reforms to contract law, dispute settlement and others have not yet been promulgated. PPA 2004 and 2011 bill does not support in advance the application of e-procurement in the public sectors. The PPA 2004 did not support at all the application of e-procurement practice in the public sector. The new bill tried to accept the application of e-procurement in the government sectors by direct the government to make the new regulation for the e-procurement activities in Section 105.

2.3.4.5 Inappropriate technology challenge

Many of the smaller rural Internet Service provider (ISPs) lack the necessary technical know-how and experience to deploy the most appropriate technologies. For example, a simple billing solution was of paramount importance. An ISP with technical capabilities could deploy Open Source Software (OSS) that would perform this function satisfactorily. An ISP without these skills had to go for more expensive proprietary software which increases investments and operational costs. Some ISPs did not deploy technologies to optimize the use of their resources, such as bandwidth

management systems. As a result, network congestion occurs and the ISP had to purchase more bandwidth. Again, the extra costs were borne by customers instead of simply managing the limited resources more effectively, (Suhail, 2007)

2.3.4.6 Power supply challenge

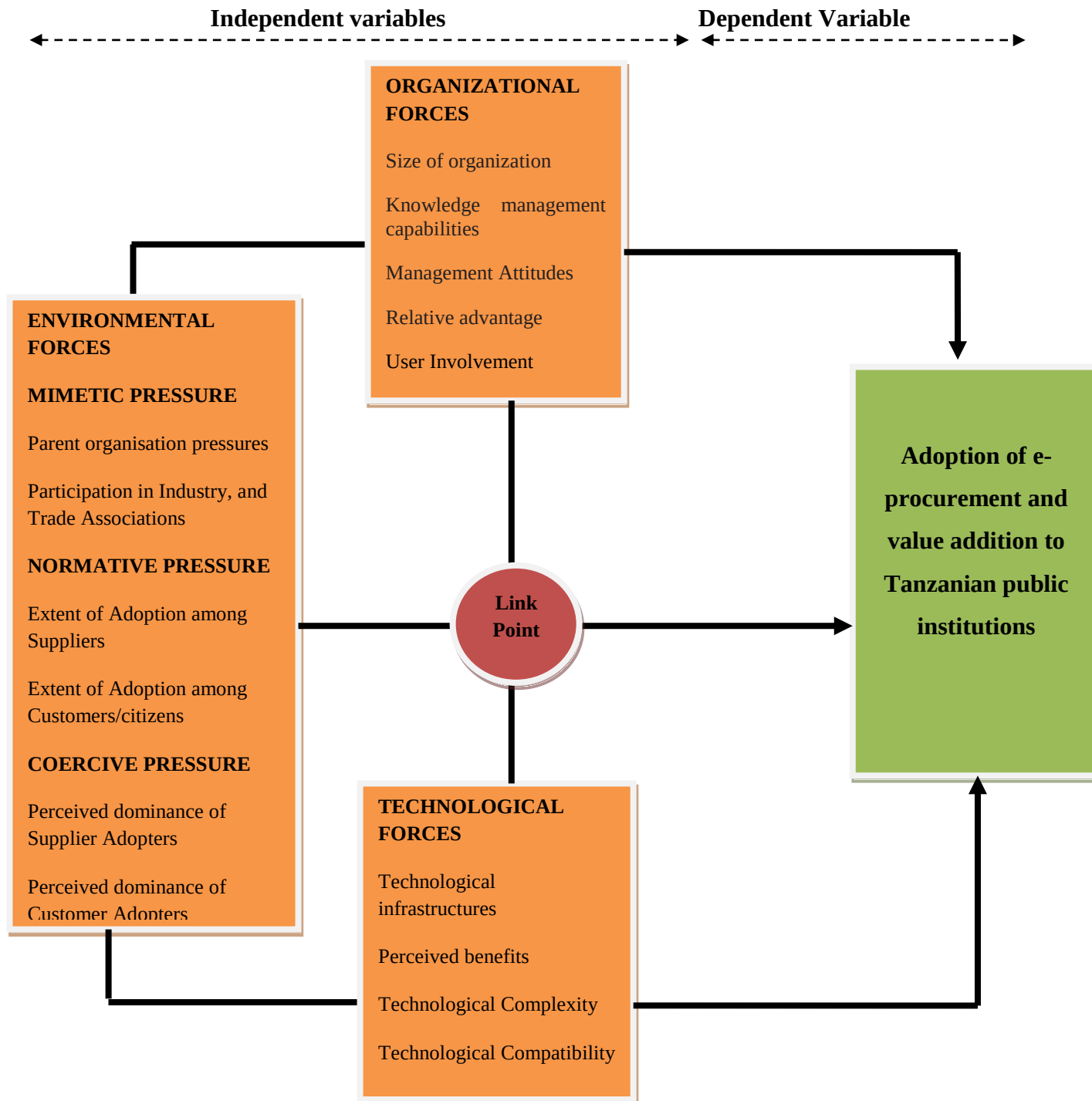
Poor electricity supply was a major problem. Efficient power supply was only guaranteed by power generators. That increases the costs where the fuel was very expensive, constituting a barrier to growth and development of e-procurement. While availability had grown, this had not been matched by quality of service (Mary & Bitrina, 2010). Therefore the use of information technology for executing procurement process would be a problem, also the connectivity of internet was not reliable and include power off of electricity “mgao wa umeme” was a nation critical problem.

2.4 Research Framework

After review different literature concerning the intensity of adoption of e-procurement from different context of different countries (developing and developed) like Tanzania. TOE framework had proved to be suitable and useful when using organisations as the unit of analysis since it enabled to focus on certain context-related factors and to further explore those factors (Karnali & Kurnia, 2011). The researcher came with the idea of using TOE framework in the study by combining three perspectives as the main drivers for the adoption of e-procurement in an organization. The TOE framework identified three aspects of a firm's context that influence the process by which it adopted and implements a technological innovation such as technological characteristics, environmental characteristics and organizational characteristics. In this study the researcher has used environmental characteristics, technological characteristics, and organizational characteristics as independent variables. The dependent variable is the adoption of e-procurement and value additional to the public enterprises.

2.4.1 Conceptual framework of the Research

Figure: 2.7: Conceptual framework of the Research



Research Model: (Adopted from Pani & Aghari, 2007, Zuhaiza et al, 2009, and Teo et al, 2003)

2.4.2 Factors/ drivers for adoption e-procurement

In general a number of factors might hinder or influence the adoption of e-procurement in an organization including; inadequate technological infrastructure, lack of skilled personnel, inadequate technological infrastructure of partners, lack of integration with business, implementation costs, company culture, inadequate business processes to support e-procurement, regulatory and legal controls, security, co-operation of business partners capacity, inadequate e-procurement solutions, upper management support (Chipiro, 2009). Shakir et al, (2007) identified several driver/barriers for adoption of e-procurement;

- Economic: Little benefit to vendors, vendors' concerns about costs, vendors' fear of competitive bidding because of its adverse effect on price, insufficient internal resources to support e-procurement
- Operational: vendors' concerns about required changes in work processes, lack of skilled personnel, particularly when the vendor is required to populate, update, and monitor, electronic product catalogues
- Environmental: ineffective public infrastructure, restrictive or lack of regulations from domestic governments, differences in language, culture, and legal systems
- Technological: low or different levels of IT maturity among vendors, lack of technical and data exchange standards, lack of supporting IT infrastructure, Vendors' concerns about the security of e-procurement transactions
- Relational: lack of trust between buyer and vendor, vendors' scepticism of motives behind supply-chain management practices, lack of buyer influence on vendors

2.4.1.1 Technological Forces

Information technology related constructs such as technology infrastructure, country-level technology innovation, and technology readiness had been demonstrated as important factors for e-procurement development by many past studies. Combining variables related to technology, we propose technology dimension as one of the constructs that affect the national level e-business development (Kim et al, 2011).In

adopting any new technology across the country or single organization the technological aspect could not be kept aside, for the purpose of this study and Tanzania context the research focused more on Perceived benefits, Technological infrastructures, Technology readiness, Technological Complexity, and Technological Compatibility as the independent variables to ward influencing e-procurement adoption

- **Perceived Benefits**

Technological drivers involved “Perceived benefits” which were the anticipated or expected advantages that could be provided to organizations, direct benefits included reduction in transaction errors and transaction costs, improved data accuracy and information quality, and faster application process. On the other hand, indirect benefits were associated with the impact of adopting e- procurement for management of business process and relationships. Indirect benefits included better customer services and improved relationship with business partners. There were also cost considerations by organizations in adopting e-procurement. “Perceived cost” These costs include the potential administrative and implementation costs which would be incurred as companies utilize e-procurement, (Thomson, 2008, Karnali & Kurnia, 2011)

- **Technological infrastructures**

Infrastructure referred to technologies that enable internet-related businesses. ICT Infrastructure had influence on the volume of a nation’s Internet Transactions or on the number of e-business websites in a country. A better ICT Infrastructure enhanced e-business development (Kim et all, 2011). Technological infrastructure could be the structure adjustment inside the organization in order to enable the internet accessibility and also could be outside the organisation, Tanzania is the best example of technological infrastructure is continuing construction of National fibre optical(NFO) since 2009.

- **Technological Compatibility**

Compatibility was defined as the degree to which an innovation was perceived as consistent with the existing values, needs, and past experiences of the potential adopter (Sarkar, 2009). It was clear that the higher compatibility, the less changes or adjustment would be needed and the lower the possible level of resistance to the technology when it was adopted. e-procurement had its roots in the modern ICT, so the existing IT infrastructure (technological compatibility) of the organization, the nature of organization's work practices and the consistence of values, culture and legal framework (organizational compatibility), all can impact the decision to adopt e-commerce (Jian, 2010).

- **Technological Complexity**

In general, the higher complexity of e-procurement and its related infrastructures, the bigger the negative influence over the adoption of e-procurement. However, the rapid advancement of the ICT, the availability of fast broadband and easier access to new technology all act to lower the complexity of e-commerce (Jian, 2010). The adoption of an innovation, as in e-commerce technology, depended on the time the firms take to understand the intricacies of e-commerce technology mechanism, its application, and the advantages and benefits that could be harvested through its proper utilisation in their individual businesses. Basically, the easier to understand the technology and its application, the faster and more immediately the adoption process and vice versa. (Almoawi, 2011)

- **Technological Policy**

Public procurement could be a mean to support government policies. This could be done through e-procurement and traditional processes. In the public domain, electronic procurement makes it possible to support the delivery of public procurement policy. E-procurement is a policy tool, which improves transparency and efficiency (Joni, 2009)

2.4.1.2 Organizational Forces

The organization context in adopting new technology differ from one country to another and from one organization to another, for the purpose of this study the researcher was focused more on size of organization, knowledge management

capabilities, Management Attitudes and support , Relative advantage and User Involvement.

- **Size of the organization**

Large firms were more likely to undertake innovation. Three major arguments support the positive role of firm size in determining IT adoption: the benefits of the new IT, the greater availability of funds and the quicker capture of economies of scale. However, larger firms had multiple levels of bureaucracy and that could impede decision-making processes about new ideas and projects (Uliveira & Martin, 2010)

- **Knowledge management capabilities**

If the owner was well-versed with the technological developments and the benefits that could be harnessed from these technological advancements, then he or she would be more likely to adopt technology in the form of e-commerce. Lack of technological knowledge on the owner's part would inhibit the adoption (Almoawi, 2011). Individual characteristics of CEO, such as education, age, experience, and psychological trait had been found to strongly influence innovation adoption (Sakar, 2009)

- **Management Attitudes and support**

Almoawi quote different authors who stated that 'previous studies had also show that management's attitude and support of the owners had a positive relationship with the e-commerce adoption', The need for commitment and support from the owners or top management during the process of assessment of the innovation or technology was of utmost importance. This commitment and support ensures that there was an obligation within the resources, which in turn would create conducive environment within the firm for the adoption process of the technology (Almoawi, 2011). Top management was a key responsible agents for ensuring that strategic, tactical and operational rules to govern their business activities and Ecommerce initiatives were in place (Kabanda & Brown, 2011). The support from top management was the

precondition for successful implementation of systems. The top management support facilitated the adoption and implementation of information systems (Sarkar, 2009).

- **User Involvement**

User involvement also reduced resistance to changes and increases user acceptance for the new system. User involvement in innovation implementation positively influenced the implementation process (Sarkar, 2009). The resistance to change could occur in different context, it might appear due to asymmetry of information concerning the perceived usefulness of new technology, it might occur due to uncertainty of expected technology but also it may occur due to opportunism of user, example in Tanzania there was a common behaviour of corruption for supplier to offer 10% to influence supplies officer either to offer a public tender in return, so if user will accept this new technology there is possibility for them to lack 10% from the supplier in future period that why they create resistance.

2.4.1.3 Environmental Forces

The changing environment was forcing organizations to change and innovate new ways of value creation. external pressure, supplier dependence; customer power, competitive pressure; dependence, exercised power, government pressure and industry pressure had been named more by several authors as the main environmental factors for organisation to adopt e-procurement (Pani & Aghahari, 2007).

- **Normative pressure**

In the context of e-procurement, normative pressures were particularly relevant because the early growth stage of e-procurement was characterized by the popular hype of cost efficiency and process effectiveness. Normative pressures could potentially hasten e-procurement assimilation across the transactional and strategic procurement processes, depended on the specific kinds of pressures exercised by entities within the business environment (Pani & Aghahari, 2007)

- **Mimetic pressure**

From a mimetic isomorphic point of view, government organizations model themselves after their parent organizations or similar organizations which they perceived to be more legitimate and successful. By imitating these other organizations, which had already implemented e-procurement initiatives successfully, they enhanced their legitimacy by demonstrating that at least the organization was trying to improve the procurement performance. In the emerging economies, mimetic pressures occurred by imitating the e-government initiatives in the advanced economies (Pani & Agrahari, 2007)

- **Coercive pressure**

Empirical evidence suggested that coercive pressures on organizations might stem from a variety of sources including resource-dominant organizations, regulatory bodies, and parent corporations, and were built into exchange relationships. Organizations might also received coercive pressure from parent corporations in addition to resource-dominant trading partner (Teo et al, 2003)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The methodology meant to the theory of manner for undertaking a research, it contained researches theoretical and philosophical assumption and guidance of these items for the methods adopted (Saunders et al 2009). In this chapter, the researcher provided brief explanation on how the study was conducted included, the study design , area of the study, sample size, sampling techniques, data collection methods, data analysis ,data reliability and data validity

3.1 Frame work of the research

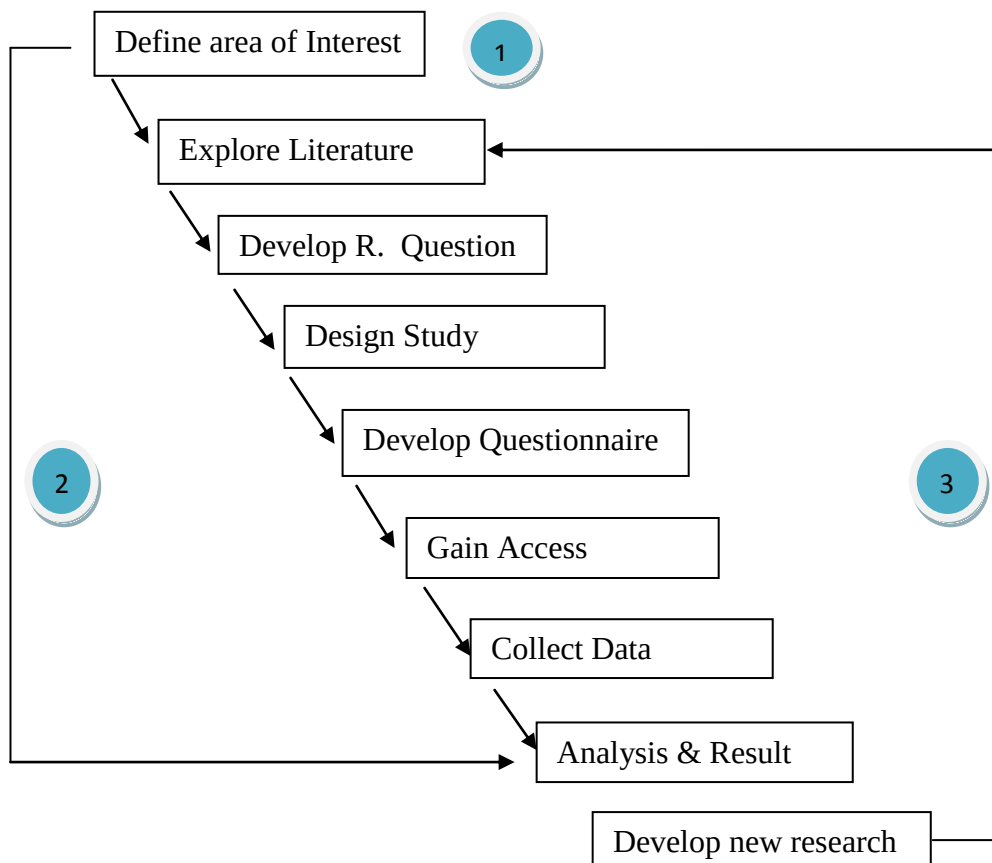


Figure 3.1: Methodology Framework of the research (Adopted from Alan, 2010)

3.1 Research design

Research design was the mechanism to ensure that appropriate data was collected to answer the research questions. Research design defined as the scheme, outline or plan that was used to generate answers to research problems. A research design could be regarded as an arrangement of conditions for collection and analysis of data in manner that aims to combine relevance with the research purpose. For this research, qualitative approach was most suitable, as the purpose of this study is to gain a clear understanding of the adoption of e-procurement in Tanzanian public institutions.

The purpose of qualitative methods were to explore how the reality of the adoption of e- procurement in connection with the technological – organizational-environmental model

3.2 Data Collection methods

According to Saunders et al (2007), there were two approaches to collecting data for a project and these were: primary data and the secondary data. They further explained that, primary data is collected basically when a particular purpose arises whereas secondary data was already collected data, which had been published, and for which new researchers could rely on as a source of information. According to Kothari, (2004) there were two types of data primary and secondary. ‘The primary data were those which were collected for the first time and the secondary data were those which had already been collected by someone else and which had already been passed through statistical processes

3.2.1 Primary Data

Primary data are first-hand information data collected specifically for the research project being undertaken. Primary data can be collected through observation, interviews, or the use of questionnaires (Saunders et al., 2009)

For the purpose of this study, primary data was gathered mainly through a questionnaire that was administered to a different response but purposively with the required information.

3.2.1.1 Questionnaire

Saunders et al, (2003), define questionnaires as including structured interviews and telephone questionnaires as well as those in which the questions were answered without an interviewer being present. Saunders et al (2003) argued that the questionnaire is one of the most widely used data collection techniques within the survey strategy. Because each person (respondent) was asked to respond to the same set of questions, it provided an efficient way of collecting responses from a large sample prior to quantitative analysis. Questionnaire permits wide coverage for minimum expense both in terms of money and effort. The researcher believed that questionnaires elicit more candidate and objective reply since it did not require any means of identification (Richard & Joseph, 2012). According to Fisher, (2007), there were number of issues to be considered when the researcher wanted to design a questionnaire. Some of them were:

- Keep the questionnaire as short as simple
- Designing it to look attractive by using the capabilities of the word processor
- Give the questionnaire a logical and sequential structure so as to attract the attention of the respondents and also to lead them into themes in the questionnaire as they develop.
- Divide the questions into parts that consist and correspond to the various issues that the researcher wants to delve into.
- Ask the easy questions first and the hard ones last.

To satisfy the conditions set by Fisher, (2007) into our chosen subject area, the researcher divided the questionnaire into distinct parts which were:

- Part I :General organization information
- Part II: Innovation characteristics (Technological characteristics, organizational characteristics, and environmental characteristics)
- Part III: Value addition /benefits of e-procurement

4.3.3 Secondary Data

Secondary data was data from existing information such as published books, articles, internet search engines etc. One of the benefits of collecting secondary data was that it saved time and cost for the researcher since the researcher uses existing information. Another major advantage of this process was that it served as guide and aid on how to conduct the research (Saunders et al., 2003). Secondary data may either be published data or unpublished data. Relevant Source was used for the purpose of this study, such as articles in academic journals, published books, search engines, internet with search tools like Google Scholar and search engine for online publications were used.

3.3 Sampling techniques

A sampling was the process of choosing an appropriate number of samples in a population in order to make it possible to do generalizations for the study (Sekaran, 2000). Using a sample rather than examining an entire population for a study was fairly obvious regarding time, cost and human resources. For the purpose of this study non-probability sampling was used to obtain a sample.

3.3.1 Non-probability Sampling

Non-probability sampling was that sampling procedure which did not afford any basis for estimating the probability that each item in the population had of being included in the sample (Kothari, 2004). The sampling technique used for this study was a non-probability sampling with a mix of judgmental and purposively sampling. Judgmental sampling according to Saunders et al, (2003) argue that self-selection sampling occurs when you allow each case, usually individuals, to identify their desire to take part in the research. You therefore: 1. Publicize your need for cases, either by advertising through appropriate media or by asking them to take part. 2. Collect data from those who respond. The respondent of this study was selected from different intellectual background of public institutions to answer the questionnaire.

3.3.2 Sample size

This refers to the number of items to be selected from the universe to constitute a sample. The size of sample should neither be excessively large, nor too small. It should be optimum. An optimum sample is one which fulfils the requirements of efficiency, representativeness, reliability and flexibility (Kothari, 2004). We requested respondents to fill the questionnaire right away, return their completed questionnaires to the researcher and researcher make follow-up questionnaires from respondent address. Data were collected from Dar e salaam, Zanzibar, Morogoro and other regions, the researcher obtained 47 respondents who were purposively selected

3.4 Data Analysis

Houman, (2008) defined data analysis as the process of edit, adjustment, classification, summarization and expression of concept or meaning of data. Primary data collected from the questionnaires were summarized, coded and processed by using statistical package for social science (SPSS for windows version 20.0). Qualitative methods of data analysis were being used in analyzing the data collected. The methods used included descriptive analysis, frequencies and percentages to facilitate description of the characteristics of the sample.

3.4.1 Research quality issues

Before data entry, examination of validate of the research was done to ensure content validity and reliability. This study used qualitative methods of data analysis. Descriptive statistics of frequency and percentages was used to describe the basic features of the data and to provide simple summaries about the sample and the measures. Together with simple graphics analysis form the basis of virtually every quantitative analysis of data

3.4.1.1 Validity:

To ensure validity study applied the triangulation technique by using, questionnaires and secondary data analysis concurrently and this was done through piloting of the data collection instruments used to collect data. The data collection instrument was designed in such a way that they measure opinions of respondents towards adoption

of e-procurement and value addition to the public enterprises. Issues developed from conceptual framework (Technological characteristics, organizational characteristics and organizational characteristics) was compared with issues obtained during answers obtained from questionnaires

3.4.1.2 Reliability:

Reliability in qualitative research means that the researcher must indicate the data collecting method, assure that data are not simulated, data collecting has been done accurately and if another researcher using the same method to collect the data, almost same or similar findings will be achieved. In the qualitative research, the researcher finally uses a subjective interpretation to analyse collected data, to increase the reliability in such researches the interpretation method should be mentioned (Mohammad, 2008). Data reliability is a cornerstone of making a successful and meaningful study. In order to collect reliable data, the researcher designed the questionnaires through an elaborate procedure which involved a series of revisions under the guidance of the study supervisors to ensure that fieldwork was conducted by use of high quality data collection.

4.4.2 Response rate

The researcher succeeds to distribute 250 questionnaires in total to the public institutions, private institutions and NGO's but the response rate was very low. The reason behind low response rate was unawareness of e-procurement to most targeted respondents. The researcher managed to collect only 47 questionnaires which was equivalent to 18.8 %. Furthermore the researcher had intent to use factor analysis for the study but due to low response rate which is below 200 cases he focused more on descriptive analysis. The unsuccessful response rate was also contributed by political instability at the country during the study time.

CHAPTER FOUR

PRESENTATION OF FINDINGS AND ANALYSIS

4.0 Introduction

In this chapter, data were presented by using SPSS version 20 based on research objectives of the study which included;

- i. To examine the organizational drivers in adoption of e-procurement in public institutions
- ii. To determine the technological drivers in adoption of e-procurement in public institutions.
- iii. To identify environmental drivers in adoption of e-procurement in public institutions
- iv. To determine the perceived value of adopting e-procurement in public institutions

The chapter also included data editing, data cleaning, and data coding, and descriptive analysis

4.1 Preliminary Data Analysis

4. 1.1 Data editing

Editing of data was a process of examining the collected raw data (especially in surveys) to detect errors and omissions and to correct these when possible. Editing involved a careful scrutiny of the completed questionnaires. Editing was done to assure that the data were accurate, consistent with other facts gathered, uniformly entered, as completed as possible and had been well arranged to facilitate coding and tabulation Kothari, (2004). The process of data editing was done to collected data by making correction to the mistake that had been done, some of the respondents had missed to answer the questions by mistake, so "unwise" techniques were used to as proposed by Howel,(2007). Under this approach each element of the inter correlation matrix had estimated by using all available data

4.1.2 Data coding

Coding referred to the process of assigning numerals or other symbols to answers so that responses could be put into a limited number of categories or classes. Coding was necessary for efficient analysis and through it the several replies might be reduced to a small number of classes which contain the critical information required for analysis (Kothari, 2004). The questionnaires was coded in a numeral form and filled in SPSS program. SPSS was used to make coding by assigning variables names such as Q200a, Q200b and Q200c to represent variable and data set was filled in numeral form

4.1 Sample characteristics

This section summarized the demographic characteristics of the respondents including gender, education level, region and nature of the organization

4.1.2 Gender

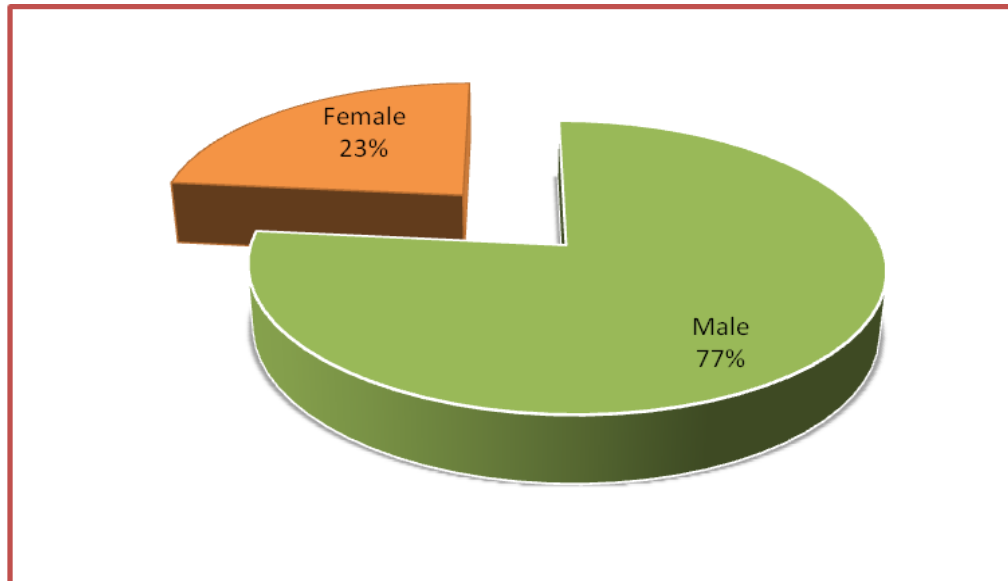
The demographic analysis from the study show that 36 respondents equivalent to 76.6% who had responded were male and 11 respondents equivalent to 23.4 % are female as represented in Table 4.1 below. The results point out that there was a dominance of male respondents rather than female respondents who have responded to the study

Table 4.1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	36	76.6	76.6	76.6
	Female	11	23.4	23.4	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

Figure 4.1: Gender



Source: Survey data (2013)

4.1.3 Education Level

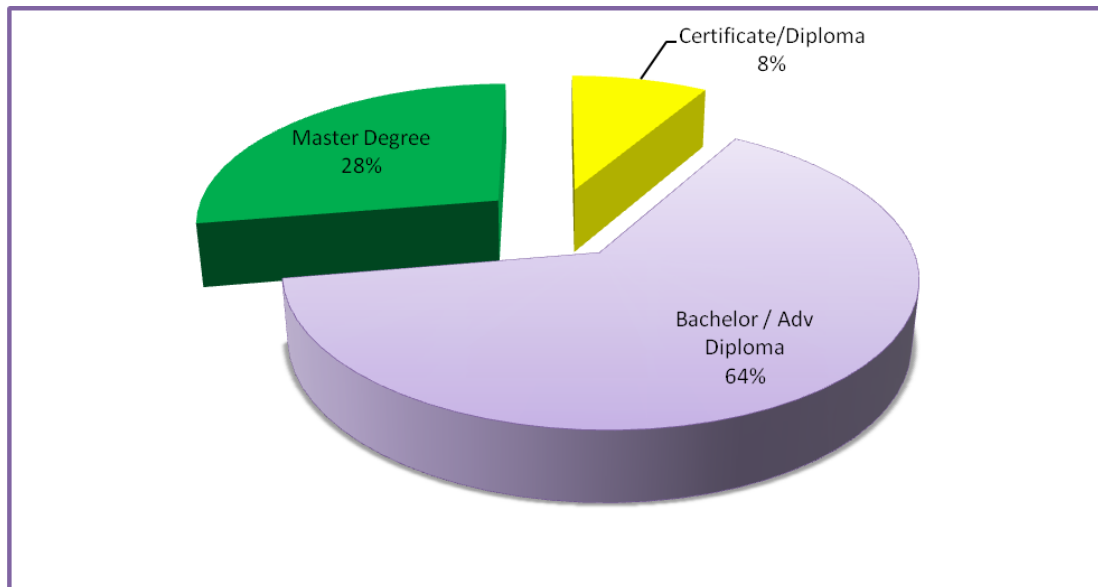
The study also examined the educational level of the respondents in which 8.5% of the respondents hold certificate/diploma level, 63.8 % of the respondents hold Bachelor / Adv Diploma level, 27.7 % of the respondents hold master degree level as represented in the table 4.2 and figure 4.2 below. The analysis reveals that the respondents were well equipped in aspect of education to adopt the e-procurement in their organizations

Table 4.2: Education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certificate/diploma	4	8.5	8.5	8.5
	Bachelor degree/Advance diploma	30	63.8	63.8	72.3
	Master degree	13	27.7	27.7	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

Figure 4.2: Education level



Source: Survey data (2013)

4.1.4 Region Available

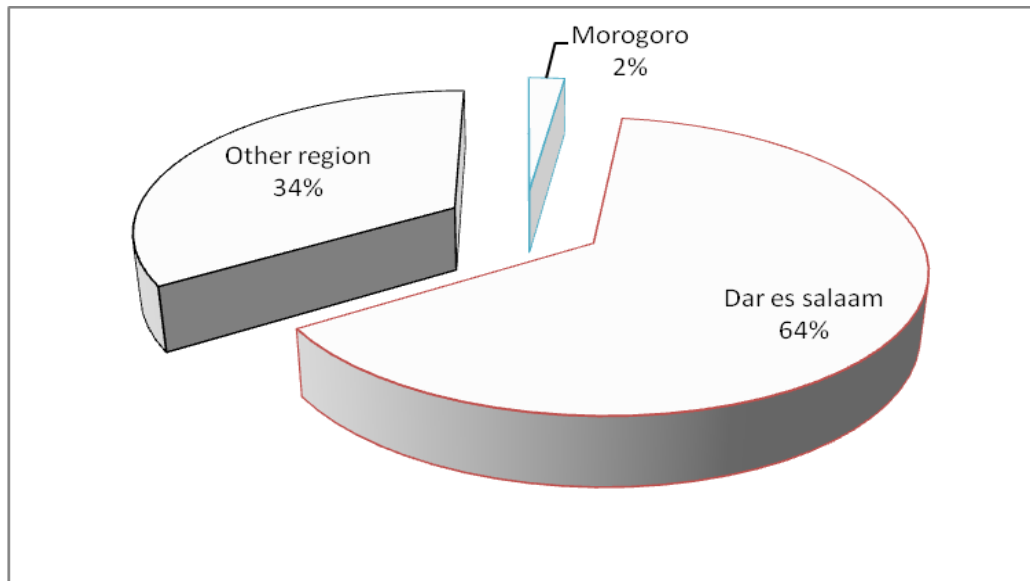
The analysis also revealed that 1 equivalent to 2.1 % of the respondents who had respondents were from Morogoro region, 30 equivalent to 63.8 % of the respondents were from Dar es salaam and 16 equivalent to 34% come from other region of Tanzania like Tanga, Shinyanga, Dodoma and Zanzibar. The analysis revealed that more respondents were from Dar es salam which indicate highly response rate on adoption of e-procurement compare to other region

Table 4.3: Region found

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Morogoro	1	2.1	2.1	2.1
	Dar Es Salaam	30	63.8	63.8	66.0
	Other region	16	34.0	34.0	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

Figure 4.3: Region found



Source: Survey data (2013)

4.1.5 Nature of the organization

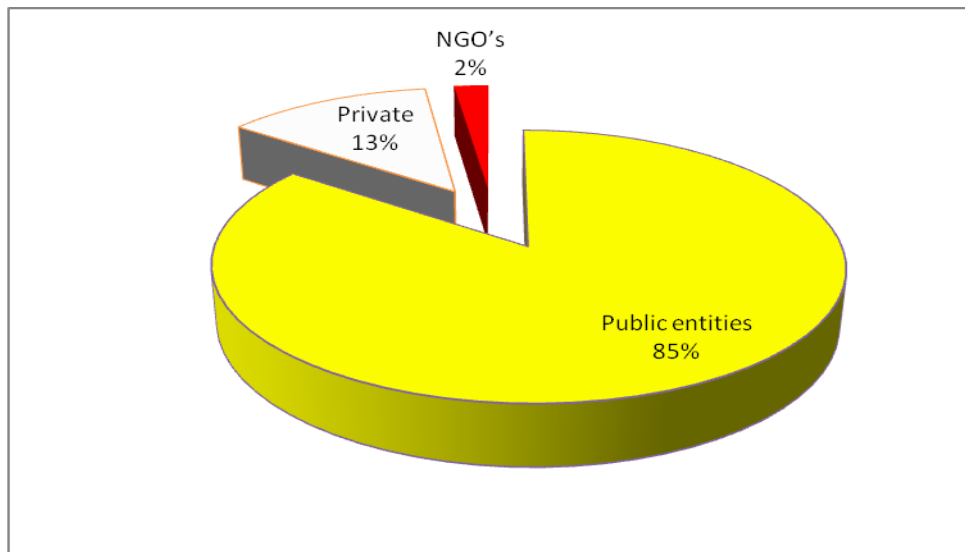
Furthermore the research also show that 85.1% of the respondents who respond were from public entities, 12.8% respondents are from private entities and 2.1% were from NGO's as shown in the table 4.4 and figure 4.4 below. As it was expected the research was focused more on public institutions and the response rate was good in public institutions compare to other sector

Table 4.4: Nature of the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public	40	85.1	85.1	85.1
	Private	6	12.8	12.8	97.9
	NGO's	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

Figure 4.4: Nature of the organization



Source: Survey data (2013)

4.3 Innovation Characteristics influencing adoption of e-procurement

4.3.1 Compatibility characteristics

This part summarized the compatibility characteristics including fitness of organization business operations, fitness of business partners operations and fitness of organization existing information system

4.3.1.1 Fitness of business operations

In Table 4.6 below, the analysis showed that 55.4% of the respondents had agreed that their organization channel was compatible with the adoption e-procurement, 36.2 % stay neutral and 8.5% disagree that their organization business operations was compatible with the adoption e-procurement.

Table 4.6: Fitness with business operations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	6	12.8	12.8	12.8
	Agree	20	42.6	42.6	55.3
	Neither agree or disagree	17	36.2	36.2	91.5
	Disagree	4	8.5	8.5	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.1.2 Fitness of business partners operations

Also the analysis indicate that 42.6% had disagreed that their business operations was compatibility with business partners operation in adoption of e-procurement, 38.3% stay neutral and 19.1% had agreed that their business operations was compatibility with business partners operation in adoption of e-procurement data were gathered in table 4.7 below,

Table 4.7: Fitness with business partners operations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	8.5	8.5	8.5
	Agree	5	10.6	10.6	19.1
	Neither agree or disagree	18	38.3	38.3	57.4
	Disagree	18	38.3	38.3	95.7
	Strongly disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.1.3 Fitness of existing information system

More than forty percent 49% the respondent had agreed that adoption of e-procurement in procuring entities fit well with the existing information system, 40.4% of the respondents stay neutral and 10.6% of the respondents had disagreed that adoption of e- procurement in procuring entities fit well with the existing information system

Table 4.8: Fitness with existing information system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	3	6.4	6.4	6.4
	Agree	20	42.6	42.6	48.9
	Neither agree or disagree	19	40.4	40.4	89.4
	Disagree	5	10.6	10.6	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

In conclusion, the analysis show e-procurement was compatible with most organizations business operations and existing information of those organizations but were not compatible with the supplier business operations, the analysis were consistence with the literature read, adoption of e-procurement become difficult in either upward stream or downward stream of the organization

4.3.2 Complexity characteristics

This part summarize the complexity characteristics for the adoption of electronic procurement

4.3.2.1 Easy for employees

Fifty three point two percent 53.2% of the of the respondents had agreed that using e-procurement is easy for the employees, 27.7 % stay neutral on complexity of using e-procurement and 19.1 % had disagreed that using e-procurement is easy for the employees as presented in table 4.9 below

Table 4.9: Easy for employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	6	12.8	12.8	12.8
	Agree	19	40.4	40.4	53.2
	Neither agree or disagree	13	27.7	27.7	80.9
	Disagree	9	19.1	19.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.2.2 Clear and understandable to business partners

The results show that 36.2% of the respondents had disagreed that using e-procurement technologies was clear and understandable by the business partners, 44.7% of the respondents stay neutral and 19.1% of the respondents had agreed that using e-procurement technologies was clear and understandable by the business partners

Table 4.10: Clear and understandable to business partners

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	2.1	2.1	2.1
	Agree	8	17.0	17.0	19.1
	Neither agree or disagree	21	44.7	44.7	63.8
	Disagree	15	31.9	31.9	95.7
	Strongly disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.2.3 Using additional e-procurement is easy for employees

The analysis showed that 51.1% of the respondents disagreed that learning how to use additional e-procurement technologies services was easy for them, 21.3% of the respondents had agreed that use additional e-procurement technologies service was easy for them, and 27.7% stay neutral.

Table 4.11: Using additional e-procurement is easy for employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	3	6.4	6.4	6.4
	Agree	7	14.9	14.9	21.3
	Neither agree or disagree	13	27.7	27.7	48.9
	Disagree	22	46.8	46.8	95.7
	Strongly disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.3 Technological infrastructures characteristic

This part summarized the infrastructure characteristics response from the respondents for the adoption of electronic procurement

4.3.3.1 Enough computers

The finding reveal that 85.1% of the respondents had agreed that the organization have already enough computers to enhance the adoption of e-procurement, 12.7% of the respondents had disagreed that their organization they had enough technological infrastructures of computer for adoption of electronic procurement, and 2.1% have neither agree or disagree as shown in the table 4.12 below.

Table 4.12 enough computers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	33	70.2	70.2	70.2
	Agree	7	14.9	14.9	85.1
	Neither agree or disagree	1	2.1	2.1	87.2
	Disagree	5	10.6	10.6	97.9
	Strongly disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.3.2 Connected to National fibre optic

The results also show that 68.1% the respondents had agreed that their organizations had already connected to national fibre optic to easy adoption of e-procurement activities, 19.1% are neutral (neither agree or disagree), 12.8 % had disagreed .The analysis showed that the majority of Public entities had already connected to the National fibre optic cable and minute organization had remained

Table 4.13 Connected to National fibre optic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	13	27.7	27.7	27.7
	Agree	19	40.4	40.4	68.1
	Neither agree or disagree	9	19.1	19.1	87.2
	Disagree	2	4.3	4.3	91.5
	Strongly disagree	4	8.5	8.5	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.3.3 Firm existing infrastructures

In aspect of infrastructures 74.5 % of the respondent had agreed that existing infrastructures was sufficient to enhance the use of e-procurement in tendering process in their organization, 8.5 % of the respondents become neutral, 17% disagree that their organization infrastructures were sufficient to execute e-tendering activities as shown in Table 4.14 below.

Table 4.14: Firm existing infrastructures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	13	27.7	27.7	27.7
	Agree	22	46.8	46.8	74.5
	Neither agree or disagree	4	8.5	8.5	83.0
	Disagree	7	14.9	14.9	97.9
	Strongly disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

In conclusion, this analysis showed that the existing technological infrastructures in most Tanzanian organizations was sufficient enough to start practice e-procurement because the majority organization they possess enough computers, had already connected to national fibre optic and also they had good firm infrastructures

4.3.4 Perceived benefits characteristics

This part summarized the perceive benefits response from the respondents for the adoption of e-procurement

4.3.4.1 Reduction of transaction costs

Fifty seven point five percent 57.5 % of the respondents had agreed that adoption of e-procurement would reduce the transaction cost for higher percent compare to manual system of procurement, 31.9 %stayed neutral (neither agree or disagree), and 10.6 % of the respondents had disagreed as show in Table 4.15 below

Table 4.15: Reduction transaction costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	2	4.3	4.3	4.3
	Agree	25	53.2	53.2	57.4
	Neither agree or disagree	15	31.9	31.9	89.4
	Disagree	4	8.5	8.5	97.9
	Strongly disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.4.1 improved the data accuracy

Table 4.16 below show that 78.8 % of respondents had agreed that adoption of e-procurement in their organization would improved the data accuracy in procurement process compare to manual system for greater percentage and reduction of errors, 17% had stayed neutral, and 4.3% of the respondents had disagreed that adoption of e-procurement in their organization would improved the data accuracy

Table 4.16: improved the data accuracy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	6	12.8	12.8	12.8
	Agree	31	66.0	66.0	78.7
	Neither agree or disagree	8	17.0	17.0	95.7
	Disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.4.1 Increase installation costs and administrative cost

The data gathered in Table 4.17 show that 34.1% of the respondents had agreed adoption of e-procurement increased the installation cost and other administrative cost, majority of the respondents were neutral for 53.2 % and 12.8% they disagree that the e-procurement would increase the installation cost and other administrative.

The analysis reveal that it was unclear on the side of the respondents on either the adoption of e- procurement would increase cost or not, further elaboration on the cost benefits analysis was needed

Table 4.17 Increase installation costs and administrative cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	3	6.4	6.4	6.4
	Agree	13	27.7	27.7	34.0
	Neither agree or disagree	25	53.2	53.2	87.2
	Disagree	6	12.8	12.8	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

To conclude, generally the analysis showed that through adoption of e-procurement in an organization perceived benefits of reduction of transaction cost, improved data accuracy and cost of administration was reduced in procurement activities.

4.3.5 Organization size characteristics

This section summarized the response concerning organization size characteristics on adoption of e-procurement

4.3.5.1 in-house IT infrastructure, expertise and skills

Majority of respondents had agreed 78.7 % that their organization had already existed in-house IT infrastructure, expertise and skills to support adoption e-procurement, 6.4% of the respondent had neither agreed or disagreed and 14.9 % of the respondent had disagreed that their organization had already existed in-house IT infrastructure, expertise and skills to support e-procurement.

Table 4.18: in-house IT infrastructure, expertise and skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	61.7	61.7	61.7
	Agree	8	17.0	17.0	78.7
	Neither agree or disagree	3	6.4	6.4	85.1
	Disagree	7	14.9	14.9	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.5.2 IT experience

The data were gathered in Table 4.19 below, Majority of the respondents 74.5% of the respondents had agreed that their organization had previous IT experience to support e-procurement application, 12.8 % had neither agreed or disagreed, 10.6% have disagree. This analysis reveals that in aspect of information technology majority of the organization they were well being to embark on e- procurement

Table 4.19: IT experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	17	36.2	36.2	36.2
Agree	18	38.3	38.3	74.5
Neither agree or disagree	6	12.8	12.8	87.2
Disagree	5	10.6	10.6	97.9
Strongly disagree	1	2.1	2.1	100.0
Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.5.3 Financial resources Availability

The analysis show that 63.8% of the respondents have agree that the firm had enough financial resources to support adoption of e-procurement technologies, 23.4% of the respondents have neither agree or disagree, and 12.7% of the respondents have disagree that their firm had enough financial resources to support adoption of e-procurement technologies as shown in table 4.20 below

Table 4.20: Financial resources Availability

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	16	34.0	34.0	34.0
Agree	14	29.8	29.8	63.8
Neither agree or disagree	11	23.4	23.4	87.2
Disagree	5	10.6	10.6	97.9
Strongly disagree	1	2.1	2.1	100.0
Total	47	100.0	100.0	

Source: Survey data (2013)

In conclusion, the analysis show that the majority of the organization is ready to embark on e- procurement in terms of existing in-house IT infrastructure, expertise and skills they have in their organizations, IT experience and financial resource capability.

4.3.6 Top management attitudes characteristics

This section summarized the management attitudes characteristics response in adoption of e-procurement

4.3.6.1 Resources allocation for e-procurement

The analysis showed that 61.7% of respondents had agreed that the top management allocate resources for e-procurement adoption in their organization, 19.1% had neither agreed or disagreed, and 19.2% had clear disagreed that the top management of their organization allocated resources for adoption of e-procurement.

Table 4.21: Resources allocation for e-procurement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	9	19.1	19.1	19.1
	Agree	20	42.6	42.6	61.7
	Neither agree or disagree	9	19.1	19.1	80.9
	Disagree	7	14.9	14.9	95.7
	Strongly disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.6.2 Top management awareness

In data gathered in table 4.22 below showed that 76.6% of the respondents had agreed that the top management was aware of the benefits derived from e-procurement technologies in their organization, 21.3 % of the respondents had neither agreed or disagreed, 2.1% had totally disagreed that their top management was aware on the benefits drive e-procurement for their organizations

Table 4.22: Top management awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	12	25.5	25.5	25.5
	Agree	24	51.1	51.1	76.6
	Neither agree or disagree	10	21.3	21.3	97.9
	Disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.6.3 Employees Encouragement

On study also found 44.6% had agreed that top management actively encourages employees to use e-procurement, but 40.4% of the respondents had neither agreed or disagreed, and 14.9% of the respondent had disagreed.

Table 4.23: Top management awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	2.1	2.1	2.1
	Agree	20	42.6	42.6	44.7
	Neither agree or disagree	19	40.4	40.4	85.1
	Disagree	5	10.6	10.6	95.7
	Strongly disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

Conclusion , the finding of the study was consistency with the literature read, the adoption of e-procurement in any organization need support from the top management, further more the analysis showed that top management was enough aware of the e-procurement opportunities, encourage their employees to practice e-procurement and also allocate enough resource to enhance adoption of e-procurement

4.3.6 Relative advantage characteristics

4.3.6.1 Enhances relationships

Also the finding showed that 87.3% of the respondents had agreed that using e-procurement enhances strong relationships with business partners, 10.6 % of the respondents had neither agreed or disagreed using e-procurement enhances strong relationships with business partners, and only 2.1 % percent had disagreed. On this analysis it revealed that the majority of the respondents had agreed that e-procurement was a strong driver to enhance the organizations-supplier relationship (OSR)

Table 4.24: Enhances relationships

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	13	27.7	27.7	27.7
	Agree	28	59.6	59.6	87.2
	Neither agree or disagree	5	10.6	10.6	97.9
	Disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.6.2 Firm effectiveness and efficiency

The analysis showed that 93.6% had agreed that using e-procurement improves the firm effectiveness, and efficiency, 2.1% of the respondents stay neutral that using e-procurement improves the effectiveness, and efficiency, and 4.3 % had clear disagreed that e-procurement improves the firm effectiveness, and efficiency

Table 4.25: Firm effectiveness and efficiency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	22	46.8	46.8	46.8
	Agree	22	46.8	46.8	93.6
	Neither agree or disagree	1	2.1	2.1	95.7
	Disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.6.3 Value for money

The analysis showed that 97.8% of the respondents had agree that when the organization use e-procurement enable firm to achieve value for money in its procurement of good, works and service, while 2.1% of the respondents had disagreed that e-procurement had resulted to achieve value for money in the organization.

Table 4.26: Value for money

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	34	72.3	72.3	72.3
	Agree	12	25.5	25.5	97.9
	Disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

To conclude, the analysis show that the study are consistence to the literature read that through adoption of e- procurement perceived relative advantages will be obtain including enhancing relationship, achieve value for money for the tax payer money and enhance effectiveness and efficiency

4.3.7 User involvement characteristics

This part summarized the response on user involvement characteristics on adoption e-procurement;

4.3.7.1 Employees involvement

The finding showed that 55.3% of the total respondents had agreed that using e-procurement enables the firm to involve most of employees in procurement process, 27.7 % of the respondent had neither agreed or disagreed, and 17 % of the respondents had disagreed

Table 4.27: Employees involvement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	8.5	8.5	8.5
	Agree	22	46.8	46.8	55.3
	Neither agree or disagree	13	27.7	27.7	83.0
	Disagree	7	14.9	14.9	97.9
	Strongly disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.7.2 Effective participation of employees

The results showed that majority of the respondents 80.9 % had agreed that using e-procurement enabled effective participation of employees in procurement process, 12.8% of the respondents had neither agreed or disagreed, and 6.4% had disagreed

Table 4.28: Effective participation of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	14	29.8	29.8	29.8
	Agree	24	51.1	51.1	80.9
	Neither agree or disagree	6	12.8	12.8	93.6
	Disagree	3	6.4	6.4	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

In conclusion, the analysis showed that by adopting e-procurement the organization would increase employee involvement and participation in procurement activities, and this would create transparency in procurement activities

4.3.8 Mimetic pressure characteristics

4.3.8.1 Suppliers pressure

Data gathered in Table 4.29 below showed that 40.4% of the respondent had neither agreed or disagreed that mimetic pressure from the supplier was the driver for Tanzanian organizations to adopt e-procurement, 44.7 % of the respondents had disagreed that suppliers demand e-procurement technologies services offered to them, and 14.9% respondents have agreed that suppliers demand e-procurement technologies services offered to them

Table 4.29: Supplier pressure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	2	4.3	4.3	4.3
	Agree	5	10.6	10.6	14.9
	Neither agree or disagree	19	40.4	40.4	55.3
	Disagree	11	23.4	23.4	78.7
	Strongly disagree	10	21.3	21.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.8.1 Alert of e-procurement opportunities

The analysis showed that 40.4% of the respondents had neither agreed or disagreed, 53.2% of the respondent had agreed that their firm was very alert to e-procurement

technologies opportunities to cope with the slogan of e-government, 6.4% had disagreed that their organization want to cope with the new slogan introduced by the government of e-government

Table 4.30: Alert of e-procurement opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	11	23.4	23.4	23.4
	Agree	14	29.8	29.8	53.2
	Neither agree or disagree	19	40.4	40.4	93.6
	Disagree	3	6.4	6.4	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.3.8.2 Competitive Pressure

The analysis showed that 76.6% of the respondents had agreed that using e-procurement technologies was important for their organization keep up with stiff competition in market due to free international trade, 17. % of the respondents had neither agreed or disagreed concerning to that, 6.4 % of the respondents had disagreed concerning to that

Table 4.31: Competitive pressure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	10.6	10.6	10.6
	Agree	31	66.0	66.0	76.6
	Neither agree or disagree	8	17.0	17.0	93.6
	Disagree	2	4.3	4.3	97.9
	Strongly disagree	1	2.1	2.1	100.0
	Total	47	100.0	q	

Source: Survey data (2013)

To conclude, the analysis showed that the only mimetic pressure that derive organizations to adopt e-procurement was competition in the market and thirst of capturing new opportunities

4.3.8 Normative pressure

4.3.8.1 suppliers

The data in table 4.32 below revealed that 12.8% of the respondents had disagreed that the extent of adoption among the suppliers had enforced their firms to adopt e-procurement, 48.9 % of the respondents had disagreed the above question, 23.4 % of the respondents had neither agreed or disagreed and 7.4% of the respondents had agreed that the extent of adoption among the suppliers has enforce our firm to adopt e-procurement

Table 4.32: Supplier

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	6	12.8	12.8	12.8
	Neither agree or disagree	11	23.4	23.4	36.2
	Disagree	23	48.9	48.9	85.1
	Strongly disagree	7	14.9	14.9	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.8.2 Core value

The results of the finding indicated that 61.7% of the respondents had agreed that the normative pressure of firm core value of cost efficiency and process effectiveness had enforced their firms to adopt e-procurement, 34% of the respondents had neither agreed or disagreed concerning to the above, 4.3% of the respondents had disagreed .

Table 4.33: core value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	29	61.7	61.7	61.7
	Neither agree or disagree	16	34.0	34.0	95.7
	Disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.8.2 Adoption among customer/citizens

The analysis showed that 63.9% of the respondent had disagreed that normative pressure from customer /citizens side has enforced their firm want to adopt e-procurement, 25.5 % had stayed neutral by neither agreed or disagree 10.6 % had agreed that customer/citizens were the sources for firm want to adopt e-procurement . The above analysis revealed that downstream side of the supply chain was steal a an infant stage in adoption of new technology like e-procurement

Table 4.34: Adoption among customer/citizens

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	5	10.6	10.6	10.6
	Neither agree or disagree	12	25.5	25.5	36.2
	Disagree	6	12.8	12.8	48.9
	Strongly disagree	24	51.1	51.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

Conclusion, the analysis revealed the literature read that the only mimetic pressure that drives the organization to adopt e-procurement is core value of effectiveness and efficiency and not supplier of customer.

4.3.9 Coercive Pressure characteristics

This section summarized response concerning the coercive pressure characteristics in adoption of e-procurement

4.3.9.1 Regulatory body

The finding indicated that 44.6 % of the respondents agreed that coercive pressure from regulatory body (Public procurement regulatory body) had enforced the public procurement institutions to be mandatory to adopt e-procurement due to introduction of PPA 2011 sect 105, 29.8% had stayed neutral by neither agreed or disagreed, and 25.5% had disagreed that coercive pressure from regulatory body had enforced the public procurement institutions to adopt e-procurement

Table 4.35: Regulatory body

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agreed	12	25.5	25.5	25.5
	Agree	9	19.1	19.1	44.7
	Neither agree or disagree	14	29.8	29.8	74.5
	Disagree	8	17.0	17.0	91.5
	Strongly disagree	4	8.5	8.5	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.9.1 Trading partners

From the data gathered revealed that 55.3% of the respondents had disagreed that coercive pressure from trading partners (dominance of supplier) had enforced their firm/organizations to adopt e-procurement, 29.8% of the respondents had stayed neutral by neither agreed or disagreed and 14.9% have agree that the coercive pressure from trading partners (dominance of supplier) had enforced their firm/organizations to adopt e – procurement

Table 4.36: Trading partners

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	7	14.9	14.9	14.9
	Neither agree or disagree	14	29.8	29.8	44.7
	Disagree	18	38.3	38.3	83.0
	Strongly disagree	8	17.0	17.0	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

4.3.9.1 Country ICT law

The analysis showed that 34 % of the respondents had disagreed that the country ICT law had enforced their firms to adopt e-procurement, 53.2 % of the respondents had neither agreed or disagree, and 12.8% of the respondents had agreed that the country ICT laws had enforced their firm to adopt e- procurement. This analysis showed that steal the Tanzania ICT laws did not motivate the community to adopt the new technologies due to several obstacles derived from those policies and laws including easy loophole for cybercrimes to conduct their online crimes.

Table 4.37: Trading partners

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	6	12.8	12.8	12.8
	Neither agree or disagree	25	53.2	53.2	66.0
	Disagree	15	31.9	31.9	97.9
	Strongly disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: *Survey data (2013)*

In conclusion, the analysis showed that the only coercive pressure from procurement regulatory body (PPRA) by advised the government to enact the public procurement law of 2011 which is mandatory for all PEs to use it had enforced the organization to start embark on procurement

4.4 Value addition of e-procurement

This section summarized those value that achieved through adoption of e-procurement

4.4.1 Paper work reduction

The analysis showed that 93.6% had agreed that the firm will enjoy reduction of paper work through adoption of e-procurement, 2.1 % of the respondents had neither agreed or disagreed and only 4.3 % of the respondents had disagreed that the firm would enjoyed reduction of paper work through adoption of e-procurement.

Table 4.38: Paper work reduction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	34	72.3	72.3	72.3
	Agree	10	21.3	21.3	93.6
	Neither agree or disagree	1	2.1	2.1	95.7
	Disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.4.2 Better compliance & reduction of errors

The analysis revealed that 83% of the respondent had agreed that their firm will perform better compliance & reduction of errors by adopting e-procurement, 12.8 % of the respondents had neither agreed or disagreed and only 4.3 % of the respondent had totally disagreed as shown in the table 4.39 below.

Table 4.39: Better compliance & reduction of errors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	17	36.2	36.2	36.2
	Agree	22	46.8	46.8	83.0
	Neither agree or disagree	6	12.8	12.8	95.7
	Disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.4.3 Reduction of Ordering Cost

The funding indicated that 87.3% of the respondents had agreed that their firm would succeed to reduced ordering cost for higher percentage by using e-procurement compare to manual system, 8.5% of the respondents had neither agreed or disagreed concerning to that and only 4.3% of the respondents had disagreed that adoption of e-procurement would reduce the ordering cost for higher percentage.

Table 4.40: Reduction of Ordering Cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	10	21.3	21.3	21.3
	Agree	31	66.0	66.0	87.2
	Neither agree or disagree	4	8.5	8.5	95.7
	Disagree	2	4.3	4.3	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.4.4 Achieve competitive Bids

The analysis showed that 66% respondents had agreed that their firm achieve more competitive bids by using e-procurement compare to manual system, 27.7 % had neither agreed or disagreed and 6.4% of the respondents had disagreed that their firm achieve more competitive bids by using e-procurement compare to manual system

Table 4.41: Achieve competitive Bids

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	14	29.8	29.8	29.8
	Agree	17	36.2	36.2	66.0
	Neither Agree or disagree	13	27.7	27.7	93.6
	Disagree	3	6.4	6.4	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.4.5 Reduced cycle time

The analysis showed that 70.2% of the respondent had agreed that adopting e-procurement in their organizations would reduced cycle time, 23.4 % of the respondents stayed neutral and 6.4 % of the respondents had disagreed.

Table 4.42: Reduced cycle time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	7	14.9	14.9	14.9
	Agree	26	55.3	55.3	70.2
	Neither agree or disagree	11	23.4	23.4	93.6
	Disagree	3	6.4	6.4	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.4.6 Increase fairness & transparency

The finding showed that 76.6 % of the respondents had agreed that the fairness & transparency across the entire organization in tendering increase through adopting e-procurement, 21.3% of the respondents had neither agreed nor disagreed, and 2.1% of the respondents had disagreed.

Table 4.43: Increase fairness & transparency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	18	38.3	38.3	38.3
	Agree	18	38.3	38.3	76.6
	Neither agree or disagree	10	21.3	21.3	97.9
	Disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

4.4.7 Standardize procurement procedures

The analysis indicated that 76.6% of the respondents had agreed that their organization by adopting e-procurement would standardize procurement procedures, 21.3% respondents had neither agreed or disagreed and 2.1% of the respondents had disagreed.

Table 4.44: Standardize procurement procedure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	7	14.9	14.9	14.9
	Agree	29	61.7	61.7	76.6
	Neither agree or disagree	10	21.3	21.3	97.9
	Disagree	1	2.1	2.1	100.0
	Total	47	100.0	100.0	

Source: Survey data (2013)

In conclusion, the analysis showed that through adoption of e-procurement the organizations would reduced paper work reductions, achieve better compliance of procurement procedures and reduction of errors, reduction of ordering cost, achieve more competitive bids, reduction of cycle time in procurement process, standardize procurement procedures and increase the efficiency and transparency in procurement activities

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.0 Introduction

In this chapter findings from the study were discussed. The main objective of this study was to assess the adoption of e-procurement and value addition to Tanzanian public institutions and specific objectives of the study were;

- i. To examine the organizational drivers in adoption of e-procurement in public institutions
- ii. To determine the technological drivers in adoption of e-procurement in public institutions.
- iii. To identify environmental drivers in adoption of e-procurement in public institutions
- iv. To determine the perceived value of adopting e-procurement in public institutions

From the study findings, organizational drivers, technological drivers, environmental drivers and perceived value were discussed.

5.1 Organizational characteristics and e-procurement Adoption

The organization characteristics influencing adoption of e-procurement differ from one country to another and from one organization to another, In this study the researcher discussed four organizational characteristics included ; size of organization, top management attitudes and support , relative advantage characteristics, and user involvement characteristics

5.1.1 Organization's size characteristics

Previous analysis showed that large firms were more likely to undertake innovation. Three major arguments supported the positive role of firm size in determining IT adoption: the benefits of the new IT, the greater availability of funds and the quicker

capture of economies of scale (Uliveira & Martin, 2010). The finding of this study show that the majority of the organization was ready to embark on e-procurement in terms of existing in-house IT infrastructure, expertise and skills they had in their organizations, IT experience and financial resource capability.

5.1.2 Top management attitudes and support characteristics

Previous research showed that top management was one among the critical factors which may influence positively or negatively the adoption of e-procurement in an organization, support from top management was the precondition for successful implementation of systems; the top management support facilitates the adoption and implementation of information systems (Sarkar, 2009). The study results concluded that top management was enough aware of the e-procurement opportunities, encourage their employees to practice e-procurement and also allocated enough resource to enhance adoption of e-procurement in their organization

5.1.3 Relative advantage characteristics

Previous literatures indicated that perceive relative advantage was a core factor that influence most organization to adopt e-procurement. Russell and Hoag, (2004) Proposed that relative advantage was positively related to innovation adoption, To conclude the analysis that was carried out in this study was consistence to the literature read that relative advantages was one among the core driver toward adoption of e- procurement, perceived relative advantages enhanced strong relationship, achieve value for money for the tax payer money and enhanced effectiveness and efficiency

5.1.4 User involvement characteristics

User involvement reduced resistance to changes and increases user acceptance for the new system. User involvement in innovation implementation positively influences the implementation process (Sarkar, 2009), the findings showed that user involvement had a positive relation to adoption of e-procurement in an organization.

5.2 Technological Characteristics and e-procurement adoption

5.2.1 Compatibility characteristics

In Tomatzky and kleinsmeta analysis of innovation adoption, they found that an innovation was more likely to be adopted when it was compatible with individual's job responsibilities and value system. The finding of this study concluded that e-procurement was compatible with most organizations business operations and existing information of those organizations but on the other hand compatible with the supplier business operations, the analysis was consistency with the literature read, adoption of e-procurement become difficult in either upward stream or downward stream of the organization

5.2.2 Complexity characteristics

Previous research showed that innovation with substantial complexity requires more technical skills and need greater implementation and operational effects to increase its rate of adoption. Also complexity characteristics negatively influence the usage of e-procurement in an organization. The findings of the results showed that the complexity was much experienced on the downstream and upstream of the supply chain due to low level of technological skills. Almoawi, (2011) argued that the easier to understand the technology and its application, the faster and more immediately the adoption process and vice versa

5.2.3 Technological infrastructures characteristics

Technological infrastructure had the structure adjustment inside the organization in order to enable the internet accessibility and also had outside the organisation. A better ICT Infrastructure enhances e-business development (Kim et all, 2011). The analysis showed that technological infrastructures for the adoption of electronic procurement in most organization were sufficient enough; the enough availability of computers, connection to international fibre optic cable and sufficient existing of internal infrastructures as explain in previous section was supportive evidence for the adoption of e-procurement

5.2.4 Perceived benefits characteristic

Previous researches showed that “Perceived benefits” were divided into two parts ‘direct benefits’ include reduction in transaction errors and transaction costs, improved data accuracy and information quality, and faster application process. On the other hand, ‘indirect benefits’ included better customer services and improved relationship with business partners. The perceived benefits of e-procurement as seen by companies had tremendous implications whether one goes for the technology or not (Gunasekaran and Ngai, 2008). In conclusion the finding of this study showed that perceived benefits of reduction of transaction cost, and increase data accuracy. Thomson, (2008) among the “Perceived benefits” which were the anticipated or expected advantages that could be provided to organizations, direct benefits included reduction in transaction errors and transaction costs which are the main driver for adoption of e- procurement

5.2 Environmental Characteristics and e-procurement Adoption

In the study findings of previous chapter, the analysis showed those environmental characteristics might influence the adoption of e-procurement. In this part, the researcher discussed environmental characteristics namely: mimetic pressure characteristics, normative pressure characteristics and coercive pressure characteristics

5.3.1 Normative Pressure

Previous research showed that normative pressures could potentially hasten e-procurement assimilation across the transactional and strategic procurement processes, depending on the specific kinds of pressures exercised by entities within the business environment (Pani & Aghahari, 2007). Normative pressures were the main driver of e-procurement (Luisa, 2010). In conclusion, for third world countries including Tanzania would remain to be a dominant problem for the side of supply stream (supplier side) to adopt new technologies due to several caused including

capital of installing those new technologies, skilled personnel's and other and this will create to lack integration for those who practice this new system.

5.3.2 Mimetic pressure characteristics

The increase in market competition intensity had a remarkable effect on the competitive behaviour of organizations. The findings revealed that mimetic pressure for the adoption of e-procurement caused by stiff competition in the environment; also it showed that supplier pressure did not influence the adoption of e-procurement for public institutions in Tanzania.

5.3.3 Coercive pressure

Empirical evidence suggested that coercive pressures on organizations might stem from a variety of sources including resource-dominant organizations, regulatory bodies, and parent corporations, and are built into exchange relationships (Teo et al,2003).On surprise the analysis show that the coercive pressure in Tanzania is only exerted by procurement regulatory body to influence the adoption of e-procurement while the trading partner (i.e. suppliers) and country ICT law did not influence the adoption of e-procurement

CHAPTER SIX

CONCLUSION AND POLICY IMPLICATIONS

6.0 Introduction

This chapter explained the conclusion of the research problem, research objectives and research questions. Furthermore, the chapter showed how the study contributed to the policy makers and practitioners. Also gave recommendations for Tanzanian public institutions and governments toward the adoption of electronic procurement in order to cope with the government slogan of e-governance.

6.1 Conclusion

Despite many obstacles and limitations the study serves the role of an important pilot in the assessment for adoption of e-procurement and value additions to public institutions especially in this e-world. The major contribution of this study was identified. Technological factors which were drivers for adoption of electronic procurement mainly compatibility, complexity, technological infrastructures, and perceived benefits in relation to Tanzania context, organizational drivers mainly organization's size, top management attitude, relative advantage and user involvement in relation to Tanzania context and for environmental driver it included mimetic pressure ,normative pressure and coercive pressure in relation to Tanzania context for adoption of electronic procurement for Tanzanian public institution public institutions .Generally the study revealed that in adoption of e -procurement in organizations, the cost benefits analysis showed that organization would benefits more than cost (Value would be achieved), e-procurement would lead to value addition then cost addition.

6.2 Implications to policy makers

The findings generated from this study hold important practical implication for government, public institutions, private institutions, and suppliers. Furthermore the government could use the findings of this study to be as a stepping stone to enhance effectively use of e- procurement in the country.

6.3 Recommendations

Recommendations were made, formulated basing on research findings in the previous sections and on literature read. The researcher recommends the following;

- ☆ Government should improve the legal infrastructure such as privacy law, e-signature and other cybercrimes law in order to reduce the crime through e-transaction. Now days there in no direct law that can sue the cybercrimes in Tanzania and all existing laws were developed before the development of computer technology. The existing laws were made to facilitate the traditional paper based business environment.
- ☆ Continued focused on improving technical infrastructure necessary for fully operation of e-procurement and the procedures and internal systems support e-procurement. Since the adoption rate is rather low, there is ample room to boost it. The dominant cancer of what known as ‘mgao wa umeme’ should be bared to enhance effective application of e-procurement in 24/7
- ☆ Furthermore e-procurement was complex applications requiring cautious consideration. An application typically concerns several units inside the firm and so all relevant units should be well aware and informed about the adoption, its benefits as well as risks. Otherwise, the application might not perform as expected.

6.4 Future Studies

This study was conducted to explore the factors influencing adoption of electronic procurement in Tanzanian public institutions based on TOE framework. The researcher would suggested that for further research, one would focus only on single factor either Technological factors, Organizational factors or environmental factors instead of conducting using all three variables. This was a very interesting and current area of research and in much need of further investigation especially after the government initiatives of ensuring every district in Tanzania were connected to national fibre optic (NFO) to enhance effective application of e-governance. The

researcher also recommended that another research should be conducted quantitatively so as to fully probe and bring out the hidden facts that this study could not touch because this research was merely qualitative research rather than quantitative.

Reference

- Aberdeen Group,(2005), **Best Practices in E-Procurement**, Reducing Costs and Increasing
- Ajzen, I. (1991), **The theory of planned behaviour, Organizational Behavior and Human Decision Processes**
- Bhattacharjee, A. (1998), **Managerial Influences on Intra-organizational Information Technology Use: A Principal-Agent Model**, Decision Sciences
- Higa K et all (1997), **Organizational Adoption and Diffusion of Technological Innovation: A Comparative Case Study on Telemedicine in Hong Kong**, The Thirtieth Annual Hawaii International Conference.
- Frambach R, et all (1999) , **Organizational Innovation Adoption: A Multi-Level Framework of Determinants and Opportunities for Future Research**, Institute for the Study of Business Markets The Pennsylvania State University 402 Business Administration Building University Park.
- Williamson, O,(1985), **The Economic Institutions of Capitalism**, Free Press
- Pani A and Agrahari A, (2007), **E-procurement in emerging economies: Theories and cases**, Idea group publishing, USA.
- Robey, D, (1979), **User attitudes and Management Information System use**, Academy of Management Journal, September 1979, vol.22.
- Brancheau, J & Wetherbe, J (1990), **The adoption of spreadsheet software: testing Innovation Diffusion Theory in the context of end-user computing**. Information Systems Research
- Kittipong S, (2008), **A Comprehensive Framework for the Adoption of Techno-Relationship Innovations** : Empirical Evidence from e-CRM in Manufacturing SMEs
- Akintola A & Oyediran O, (2011), **A survey of the state of the art of e-tendering in Nigeria**, Journal of Information Technology in Construction (online): retrieved 21/12/2012: http://www.itcon.org/data/works/att/2011_32.content.05932.pdf
- Alan S, (2010), **The role of e-procurement in purchasing management**.

Almoawi A, (2011), **applying the OTE model in determining the e-commerce adoption on SMEs in Saudi Arabia**, Asian Journal of Business and Management Sciences, Vol. 1 No. 7

American Chamber of Commerce in Albania,(2010), “**Monitoring the usage of the E-procurement System**” (On-line): retrieved 20/12/2012; www.amcham.com.al.

Amjad A et all,(2010), **A Process-Based Analysis of e-Procurement Adoption**, Journal of Internet Commerce

Bertot, Jc, Jaeger, Pt & Grimes, Jm (2010), '**using ICTs to create a culture of transparency: e-government and social media as role of public e-procurement technology openness and anti-corruption tools for societies**', government information quarterly.

Chipiro D,(2009), **The Impact of E-procurement On Strategic Sourcing** ,A Case Study: CBZ Bank Limited, Zimbabwe (online): retrieved 21/12/2012: <http://uir.unisa.ac.za/bitstream/handle/10500/3733/2009%20MBL%203%20Research%20Report%20DD%20Chipiro%20Main%20Report.pdf?sequence=1>

Damavandi M, (2011), **Implementation of E procurement and its performance effect on ship management companies**: Case study of IRISL (online) :retrieved 20/12/2012:

Daniel J, (2009), **an analysis into the factors affecting the uptake of application of e-procurement**, within the UK public sector

David Caffey, (2009), E-Business and E-Commerce Management

Dooley, K. and Purchase, S.(2006), **Factors influencing e-procurement usage**, Journal of Public Procurement

ECIS, (2010), a structurational view of e-commerce in SMEs in least developing countries

Emmanuel A,(2012), **Adoption of E-commerce in Nigerian Businesses**, Change from traditional to e-commerce business model in Richbol Environmental Services Limited (online):retrieved 11/01/2013: <https://publications.theseus.fi/bitstream/handle/10024/38988/Applying%20ecommerce.pdf?sequence=1>

European commission, (2012), **communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions: a strategy for e-procurement** (online): retrieved 21/12/2012: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0179:FIN:EN:PDF>

Frank D,(2011), investigating the factors leading customers intention to adopt mobile phone banking the case of national microfinance bank mobile phone banking. Georg A, 2010, Scenarios of e-Government in 2010 and implications for strategy design, Institute of Technology Assessment, Austrian Academy of Sciences, Vienna, Austria.

Gunasekaran, A. and Ngai, E,(2008), **Adoption of e-procurement in Hong Kong: An empirical research**. International Journal of Production Economics, vol. 113

Hatice C & Mehmet S, (2012), **E-Procurement: A Case Study about the Health Sector in Turkey**, International Journal of Business and Social Science Vol. 3 No. 7.

Jian Z, (2010), **Study on Adoption of E-commerce in SMEs** (online), retrieved 2012/2012: <http://www.seiofbluemountain.com/upload/product/201012/3-Z09.pdf>

Jobodwana Z, (2009), **E-Commerce and Mobile Commerce in South Africa: Regulatory Challenges**, Journal of International Commercial Law and Technology Vol. 4, Issue 4

Joni T, (2009), **Benefits and implementation challenges of an electronic procurement system** (online): retrieved 20/12/2012:

<http://www.doria.fi/bitstream/handle/10024/59168/nbnfi-fe201002111363.pdf>

Kabanda S & Brown I, (2011), **A structurational view of e-commerce in SMEs in least developing countries: 18th European Conference on Information Systems**, (online); retrieved 20/12/2012: <http://is2.lse.ac.uk/asp/aspecis/20100076.pdf>

Kabanda S,(2011), **“E-Commerce Institutionalization is not for us”**: SMEs perception of E-Commerce in Tanzania, The African Journal of Information Systems, Volume 3, Article 1.

Kabanda S,(2012), **Power Dynamic in E-commerce Adoption in least developing countries: The case of Dar es Salaam SMEs Tanzania** (online):retrieved 19/12/2012: http://link.springer.com/chapter/10.1007%2F978-3-642-29093-0_21?LI=true#page-1

Karnali R & Kurnia S, (2011), **The adoption of b2b e-commerce initiatives by the Indonesian grocery industry** (online): retrieved:19/12/2012: <http://www.pacis-net.org/file/2011/PACIS2011-080.pdf>

Kashta R,(2009), **e-procurement system in Albania, impact and lessons learned** (online) :retrieved 21/12/2012.

<http://www.ippa.org/IPPC5/Proceedings/Part2/PAPER2-5.pdf>

Kileo A, (2012), **an assessment of e-procurement internal adoption challenges for SMEs in Tanzania**, (online) retrived :18/12/2012:

<http://www.scribd.com/doc/84681171/1/Introduction>

Kim D et all, (2011), **E-business for Nations: A Study of National Level Ebusiness Adoption Factors Using Country Characteristics-Business-Technology-Government Framework**, journal of theoretical and applied electronic commerce research.

Kowero A, (2012),**Tanzania Country Level Knowledge Network, Exploiting the Potentials of the National Information and Communication Technology Broadband Backbone (NICTBB) in Tanzania** (online): retrieved 31/12/2012: http://clknet.or.tz/wp-content/uploads/2012/09/NICTBB-RRESEARCH_FINAL-1.pdf

Liang T,(2007), **Rural Communication Access Centres in Tanzania: Lessons learned from setting up and managing IICD supported RCA Centres** (online): retrieved 31/12/2012: <http://www.iicd.org/files/Rural-Communication-Access-Centres-Tanzania-2007-Liang-Tan.pdf>

Malcom H,(2009), **An opportunity for cost saving, greater efficiencies**

Mandela N, (2007), **Value Creation in E-Procurement**, Education is the most powerful weapon which you can use to change the world.

Mark H, (2011), **Realising the potential of ICTs in Tanzania, Policy briefing** (online): retrieve 31/12/2012: http://panos.org.uk/wp-content/files/2011/01/panos-london-ICTs_and_tanzania-policy.pdf

Mary M & Bitrina D,(2010), **Tanzania ICT Sector Performance Review 2009/2010: Towards Evidence-based ICT Policy and Regulation Volume Two** , Policy Paper 11, 2010

Mibenge M & Okoye N, (2007), **E-procurement, internal customer service and external customers – a study of effects and interdependencies** (online): retrieved 20/12/2012: [http://www.bth.se/fou/cuppsats.nsf/all/aa1eb13f94af9979c125734f007696e0/\\$file/Eprocurement_Internal%20Customer%20Service%20And%20External%20Customers_A%20Study%20of%20Effects%20And%20Interdependencies.pdf](http://www.bth.se/fou/cuppsats.nsf/all/aa1eb13f94af9979c125734f007696e0/$file/Eprocurement_Internal%20Customer%20Service%20And%20External%20Customers_A%20Study%20of%20Effects%20And%20Interdependencies.pdf)

Ministry of Defence - **E-Procurement Strategy and Plan**, 2008 -2012

Naeem M & Bashir O, (2011), **RDFa as Semantic Markup and Web Visibility** (online): retrieved 20/12/2012: http://dspace.mah.se/bitstream/handle/2043/12370/Master_Thesis.pdf?sequence=2

Okoha A et al, (2012), **Integrating TAM and TOE Frameworks and Expanding their Characteristic Constructs for E-Commerce Adoption by SMEs**, Proceedings of Informing Science & IT Education Conference (online); retrieved 19/12/2012

Pani A and Agrahari A, (2007), **E-procurement in emerging economies: Theories and cases**, Idea group publishing, USA.

Parida V et al, (2006), **Understanding E-procurement: Qualitative Case Studies** (online): retrieved 19/12/2012: <http://iceb.nccu.edu.tw/proceedings/2006/defevent/papers/cr1058.pdf>

Paulo A, (2009), **Electronic Procurement: Dealing With Supplier Adoption**, Lisbon University Institute.

PPS, (2012), **E-Procurement Experience in Korea: Implementation and Impact** (online): retrieved 21/12/2012: http://ec.europa.eu/internal_market/publicprocurement/docs/eprocurement/conferences/speeches/ho-in-kang_en.pdf

Public Procurement Agency of Albania (2009, 2010, 2011), Annual Report.

Puschmann T & Alt R, (2005), **Successful Use of eProcurement in Supply Chains** (online): retrieved 1/1/2013: www.alexandria.unisg.ch/export/DL/204720.pdf

Ramanathan S, (2004), **Diffusion of e-procurement in the public sector – revisiting centralization versus decentralization debates as a twist in the tale**, Aalborg University (online): retrieved 19/12/2012: <http://is2.lse.ac.uk/asp/aspecis/20040137.pdf>

- Richard A & Joseph M, (2012), **The Extent of Adoption of E-Commerce in the Ghanaian Dairy Industry and its Potential Applications and Benefits** (online): retrieved 11/1/2013: <http://pure.ltu.se/portal/files/36931805/LTU-EX-2012-36598682-2.pdf>
- Robert M et al, (2012), **Antecedents to Successful Adoption of e-Procurement in Textile and Apparel Firms in Kenya**, International Journal of Scientific & Engineering Research, Volume 3, Issue 10, October-2012
- Rowe F,(2012), **An empirical Study of Determinants of E-commerce Adoption in SMEs in Vietnam an economy in transition**, Journal of Global Information Management (online) :retrieved 20/12/2012: <http://www3.cis.gsu.edu/dtruex/courses/IB8710/Articles/Vietnam-EC-JGIMaccepted-031212.pdf>
- Samir K, (2008), **Role of e-procurement in steel industry with a case study on Visakhapatnam steel plant**, international centre for promotion of enterprises, ljubljana, India.
- Sarkar A, (2009), **E-Commerce Adoption and Implementation in Automobile Industry: A Case Study**, World Academy of Science, Engineering and Technology (online) : retrieved 20/12/2012: <https://www.waset.org/journals/waset/v34/v34-102.pdf>
- Saunders, Lewis & Thornhill (2006) Research methods for business students, 4 edition, Prentice Hall .UK
- Shakir; Smith & Gulec (2007), 'Business-to-business e-procurement, MIS Quarterly Executive
- Sijaona K,(2010),**e-procurement in Tanzania**, 3rd East African Procurement Forum, White Sands Hotel, Dar es salaam, Tanzania(online): retrived 18/12/2012: http://www.eappf.org/uploads/media/eProcurement_in_Tanzania_by_Kenneth_Sijao_na_01.Pdf.
- Stanislav S,(2012), **E-business tools for supply chain integration: trends and opportunities** (online),retrieved 6/1/2013: pure.au.dk/portal-asb-student/files/44924699/thesis.pdf

Stanton J & Pires G, (2005): **a research framework for the electronic procurement adoption process**: drawing from Australian evidence, Journal of Global Business and Technology, Volume 1

Sun, Sherry X., Zhao, Jing, and Huaiqing Wang,(2012), **An agent based approach for exception handling in e-procurement management**. Expert Systems with Applications

Tatsis, V., Mena, C., van Wassenhove, L. and Whicker, L. (2006), **“E-procurement in the Greek food and drink industry: drivers and impediments”**, Journal of Purchasing & Supply Management.

TCRA, (2011), **Electronic communication markets in Tanzania** (online): retrieved 31/12/2012: <http://www.tcra.go.tz/headlines/electronicCommMarkets.pdf>

Teo H et al, (2003), **Predicting intention to adopt inter organizational linkages**: an institutional perspective, Management Information Systems Research Centre, University of Minnesota

Teo H et al, (2003), **Predicting intention to adopt inter organizational linkages**: an institutional perspective, Management Information Systems Research Centre, University of Minnesota

The Chartered Institute of Purchasing & Supply (CIPS),(2009),(online):<http://www.cips.org>

Uliveira T & Martin M, (2010), **Firms Patterns of e-Business Adoption**: Evidence for the European Union (online), retrieved: 19/12/2012

UN-HABITAT, (2009), Tanzania: Morogoro profile, United Nations Human Settlements Programme publications, Nairobi, Kenya

United Nations Conference on Trade and Development (2001), **e-commerce in the least developed countries** (online):retrived 18/12/2012: <http://unctad.org/en/docs/ecdr01p4.en.pdf>

United Nations Procurement Capacity Development Centre website: accessed 01/05/2012

Value through Online Buying (online),retrieved 1/1/2013: http://www.purchasing.upenn.edu/news/ag_bpe_0512.pdf

- Viljami V,(2012), **Problems related to the adoption of e procurement for indirect purchases**: Lappeenranta University of technology
- Russell and Hoag, (2004), **People and information technology in the supply chain**: Social and organizational influences on adoption. International Journal of Physical Distribution and Logistics Management, Vol. 34
- Wahid F, (2010), **Examine Adoption of e-procurement in Public sector Using the Perceived Characteristics of Innovating**: Indonesia Perspective, Yogyakarta ,Indonesia.
- Wu, F., Zsidisin, G.A. and Ross, A.D. (2007), “**Antecedents and outcomes of e-procurement adoption**”, (online), retrieved 19/12/2012, <http://thinkingbookworm.typepad.com/blog/2012/04/e-procurement-in-motorola.html>
- Yonazi J, (2012), **Cyber Security in Tanzania**: Report on from the Cyber-Security Mini-Conference (online): retrieved 31/12/2012:
- Zuhaiza S et al, (2009), **E-business adoption among SMEs in Malaysia**: investigation from the supply chain perspective, Problems and Perspectives in Management, Volume 7 (online) retrieved 19/12/2012: http://businessperspectives.org/journals_free/ppm/2009/PPM_EN_2009_04_Zailani.pdf
- Edie et al. (2007), **Barriers to e-procurement** – Itcon Vol. 12
- Luisa, (2010), **an analysis of e-business adoption and its impact on relational quality in travel agency–supplier relationships**,
- Nnafie, (2002), **Internet cafés in Dar es Salaam**: Problems and Opportunities, Recommendations for eThinkTank Tanzania
- singh and kumar,(2011), **employees adoption of e -procurement system**: an empirical study (online), <http://arxiv.org/ftp/arxiv/papers/1112/1112.2699.pdf>,retrieved 21/8/2013
- Yusof, (2010), **Factors that influence the satisfaction level of e-procurement users**: a moderating effect of transparency (online), Retrieved 21/8/2013 <http://eprints.usm.my/23738/1/KHAIRUSANY.pdf>

Rahim, (2008), **identifying Factors Affecting Acceptance of E-procurement Systems:** An Initial Qualitative Study at an Australian City Council

Howell,(2007), **The analysis of missing data,** In Outhwaite, W. & Turner, S. Handbook of Social Science Methodology. London

Appendix 1: Proposed Questionnaires

QUESTIONNAIRE

The Case of E-Procurement adoption in Tanzania Public institutions

March 2013 – May 2013

The data provided in this survey is confidential and will be used only for scientific purposes by the researcher.

Start Time _____

End Time _____

Date _____

Researcher Name: Mohammed Suleiman, Phone:0714666552/774063560, Email:massah74@yahoo.com

PART I: GENERAL ORGANIZATION INFORMATION (100)

The questions asked in this section will be used for classification purposes only. The information gathered will not be used in any other way and will be kept strictly confidential. Please Tick [✓] the most appropriate alternative/s

(100a) Which Organization do you work for? _____ _____	(100 b) What Position do you hold in the organization? _____
(100 c) For How Long Have you been employed in that position? _____	(100 d) What Unit/department do you work for? _____
(100 e) What is your highest level of education? ☐ Primary school ☐ Secondary/High school ☐ Certificate/Diploma ☐ Bachelor degree/Advanced Diploma ☐ Masters degree ☐ Other level (specify) _____	(100 f) Which region of Tanzania does your organization found? ☐ Morogoro ☐ Dar es Salaam ☐ Mwanza ☐ Other level (specify) _____ (100 g) Which district of Tanzania does your organization found? _____
(100h) In what category does your organization fall? ☐ Public ☐ Private ☐ NGO's ☐ Other level (specify) _____ (100j) Did your organization use electronic procurement? ☐ Yes ☐ No	(100 i) What is your gender? ☐ Male ☐ Female

PART II: Innovation Characteristics influencing the adoption of e-procurement (200)

Please indicate your level of agreement or disagreement with each of the following statements. For each statement below please circle the number that best describes your view on your firm

(201) <u>Compatibility characteristics</u>	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
(201 a) Using e-procurement fits well with the way our firm do business	1	2	3	4	5
(201b) Using e-procurement fits well with our firm business partners operates i.e. suppliers	1	2	3	4	5
(201c) Using e-procurement fits well with the existing information system	1	2	3	4	5
(202) <u>Complexity characteristics</u>					
(202 a) Using e-procurement is easy for our employees	1	2	3	4	5
(202b) Using e-procurement technologies is clear and understandable to our business partners	1	2	3	4	5
(202c) Learning how to use additional e-procurement technologies services is easy for our employees	1	2	3	4	5
(203) <u>Technological infrastructures characteristics</u>					
(203 a) Our firm has already enough computers to enhance the adoption of e-procurement	1	2	3	4	5
(203 b) Our firm has already connected to National fibre optic to easy adoption of e-procurement	1	2	3	4	5
(203 c) Our firm existing infrastructures is sufficient to enhance the use of e-procurement in tendering process.	1	2	3	4	5
(204) <u>Perceived benefits characteristics</u>					

(204 a) Adoption of e-procurement in our firm has reduce for 50% the transaction costs	1	2	3	4	5
(204 b) Adoption of e-procurement in our firm has improved the data accuracy in our procurement process	1	2	3	4	5
(204 c) Adoption of e-procurement in our firm has increase the installation costs and other administrative cost	1	2	3	4	5
(205) <u>Organisation's Size characteristics</u>					
(205a) Our firm had already existing in-house IT infrastructure, expertise and skills to support e-procurement	1	2	3	4	5
(205b) The firm had previous IT experience to support e-procurement application	1	2	3	4	5
(205c) The firm had enough financial resources to support adoption of e-procurement technologies	1	2	3	4	5
(206) <u>Top Management Attitudes characteristics</u>					
(206a) Top management allocated resources for e-procurement technologies adoption	1	2	3	4	5
(206b) Top management is aware of the benefits of e-procurement technologies	1	2	3	4	5
(206c) Top management actively encourages employees to use e-procurement	1	2	3	4	5
(207) <u>Relative advantage characteristics</u>					
(207 a) Using e-procurement enhances strong relationships with business partners	1	2	3	4	5
(207b) Using e-procurement improves our firms effectiveness, and efficiency	1	2	3	4	5
(207 c) Using e-procurement our enable our firm to achieve	1	2	3	4	5

Value for money					
<u>(208) User Involvement characteristic</u>					
(208 a) Using e-procurement enables our firm to involve most of employees in procurement process	1	2	3	4	5
(208 b) Using e-procurement enable effective participation of employees	1	2	3	4	5
<u>(209) Mimetic Pressure</u>					
(209a) Our suppliers demand e-procurement technologies services offered to them	1	2	3	4	5
(209b) The firm is very alert to e-procurement technologies opportunities to cope with the slogan of e-government	1	2	3	4	5
(209c) Using e-procurement technologies is important to keep up with competition in market.	1	2	3	4	5
<u>(300) Normative Pressure</u>					
(300a) The extend of adoption among the suppliers has enforce our firm to adopt e-procurement	1	2	3	4	5
(300b) The firm core value of cost efficiency and process effectiveness has enforce the firm to adopt e-procurement	1	2	3	4	5
(300c) The extent of adoption among customer/citizens has enforced our firm to adopt e-procurement	1	2	3	4	5
<u>(301) Coercive Pressure</u>	1	2	3	4	5
(301a) The Regulatory body enforce our firm to adopt e-procurement	1	2	3	4	5
(301 b) Trading partners (dominance of supplier) enforce our firm to adopt e – procurement	1	2	3	4	5

(301 c) The country ICT law has enforce our firm to adopt e-procurement	1	2	3	4	5
(400) What are the other specific reasons for adopting e-procurement in your organization?) If you feel there are other specific barriers pertinent to Tanzanian case, Please list down					

PART III: Value addition of e-procurement (500)

Please indicate your level of agreement or disagreement with each of the following statements. For each statement below please circle the number that best describes your view on your firm

(501) <u>Benefits Characteristic of e-procurement</u>	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
(501a) The firm enjoy reduction of Paper Work through adoption of e-procurement	1	2	3	4	5
(501b)Our firm perform better compliance & reduction of errors by adopting e-procurement	1	2	3	4	5
(501c)Our firm succeed to reduced Ordering Cost for higher percentage by using e-procurement	1	2	3	4	5
(501 d)Our firm achieve more competitive Bids by using e-procurement	1	2	3	4	5
(501 e)By adopting e-procurement the institution Reduced	1	2	3	4	5

Cycle Time for 90%					
(501f) The fairness & transparency across the entire organization in tendering increase through adopting e-procurement	1	2	3	4	5
(501g) Our organization by adopting e-procurement has Standardize procurement procedures.	1	2	3	4	5

I Humbly Thank you for your assistance and Time

Appendix 2: Research Schedule

MILESTONES ONE		MILESTONE TWO			MILESTONE THREE		MILESTONE FOUR	
Dec 2012	January	February	March	April	May	June	July	August 2013
Topic Generation								
Clarification of	Topic							
	Proposal	Write up						
			Research Data collection	Design &				
					Answering R.Question			
					Data Analysis	& Interpretation		
							1 st draft	
								Final Draft Submission

NORMAL MILE STONE

CRITICAL MILE STONE