Challenges affecting the implementation of e-procurement in the Malawi Public Sector: -The Case of Malawi Housing Corporation, Lilongwe City Council, Kamuzu Central Hospital, Immigration Department and Malawi Defence Force.

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A Research Project Paper submitted to University of Bolton in partial fulfillment of the requirements for the Award of a Master's Degree in Supply Chain Management.

10 TH APRIL, 2017
DECLARATION

I truthfully make a declaration that this report is my own work and submitted towards the award of a Master of Science Degree in Supply Chain Management from the University of Bolton (UoB) in collaboration with Malawi Institute of Management (MIM). Furthermore, I declare that this report does not contain any work or materials published by other authors and students except where there is due acknowledgement.

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Name of Supervisor               Signature                      Date

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Name of Supervisor               Signature                      Date
DEDICATION

This Dissertation is dedicated to my lovely wife, Olive and my lovely son, Bless Kanyambo for their true love during the period I had been engaged in this study. God bless you.
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Special thanks to the Almighty God for His untiring love upon my life to come to this far. My acknowledgement to the following people who have made it possible for me to complete this project:

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- Respondents – for their timely responses
ABSTRACT

As part of e-government initiative, the public sector is encouraged to adopt e-procurement systems and some initiatives are currently underway in Malawi public sector. Despite the numerous benefits of e-procurement and goals set by the Government of Malawi (GoM) to reduce costs, improve service delivery, enhance transparency and efficiency, the public sector is reluctant to move procurement to the Internet and government ministries or departments have not yet implemented e-procurement.

This study aimed at assessing the challenges that affect the implementation of e-procurement, perceived benefits, and critical success factors for effective implementation. Both Qualitative and Quantitative research methodologies were used as a guide to achieve the research objectives and the Questionnaire was used to collect data from government ministries and departments. Systematic Random sampling was used to select the government offices to be included in the study then purposive sampling was used to obtain the required primary data from respondents that are knowledgeable with the subject area. Out of the 113 questionnaires distributed, only 91 were received and analyzed, representing 81 percent response rate. Data was analyzed using thematic areas for qualitative (descriptive data) and excel for quantitative data. The results indicate that all the public entities in this study currently do not use any form of e-procurement but they are ready to adopt some. However, the respondents were able to identify the benefits that include, reduced maverick buying and reduced lead time. Challenges for implementation include lack of trained personnel, organizational culture that does not embrace technology, lack of managerial support and cost for setting up the system. The respondents further
identified some critical success factors for e-procurement implementation and these include enhanced managerial support and end user training as the major ones. While system integration, users and supplier involvement are the secondary factors for consideration too. The researcher concluded that e-procurement requires resources, training and enactment of law within the public procurement framework for improved efficiency and service delivery. Hence, recommendations have been made to various stakeholders to enhance the implementation process. For instance, the Government of Malawi (GoM) to reduce taxes on ICT equipment and develop curriculum on e-procurement in institutions of higher learning. Executive management of public institutions to involve staff during implementation and train staff on e-procurement systems and tools usage. Lastly, recommendations to employees to acquire the necessary skills through attendance of short term or long term learning from institutions such as Malawi institute of Management (MIM) to enhance computer skills capacity especially in e-procurement.

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LIST OF ABBREVIATIONS

MHC-Malawi Housing Corporation
ODPP-Office of the Director of Public Procurement
ADB-African Development Bank
E-P-Electronic Procurement
B2B-Business to Business
B2C-Business to Customers
MRP-Manufacturing Resources Planning
ICT-Information Communication Technology
UNDP-United Nations Development Programme
ITB-International Competitive Bidding
NCB-National Competitive Bidding
EPS-Electronic Procurement System
EU-European Union
E-SCM-Electronic Supply Chain Management
CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter discusses the background to the study, the brief background of e-procurement in public sectors in Malawi, the problem statement, the purpose of the study, rationale for the study, research aim and objectives, research questions and the significance of the study. Finally, the chapter looks at how this project report has been structured.

1.1 Study Background

With today’s business competition, organizations have to adopt innovative ways of doing business in order to be competitive. For example, the adoption internet based technologies is no longer an afterthought, rather it is a must now. To improve service delivery, public institutions need to adopt technologies that will assist them to provide cost effective total solution and life- cycle costs for sustainable value to the customers (Parida, 2007). The use of the internet and information and communication technology (ICT) applications, have contributed to public institutions and as well as private entities adopt web based procurement commonly known as e-procurement in order to improve service delivery.

E-procurement facilitates buying solutions using the internet and has the power to transform the procurement processes thereby reducing costs, reducing lead times, enhancing transparency and competition and increasing operational efficiency of the procurement system. Worldwide, many public sector organizations have identified
electronic Procurement (e-Procurement) as a priority for e-Government implementation agenda in-order to improve the efficiency in the public procurement systems (Shaw, 1990).

Veit (2007) observed that e-procurement is an important subset of e- Government and refers it to the use of the internet in conducting public procurement to procure goods, services and works. E-Government is defined as the use of information and communication technology (ICT) by the public sector to improve the efficiency, effectiveness, transparency and responsibility of the government service delivery. This is achieved by the efficient utilization of the Internet and the world-wide-web for delivering government information and services to the citizens. E-Government’ is therefore the approach as to how government utilized IT, ICT, and other web-based telecommunication technologies to improve and/or enhance service in the public sector (e-governance.com).

In e-procurement, requests and orders are channeled through various forms of hubs or database and the system further allows individual employees to search for items or goods, checks availability, place and track orders and initiate payment of delivery on real time basis (Damavandi, 2011).

Malawi government is one of the southern African country that is strategizing so as to fully move procurement in the public sector to the internet, In 2007, according to the (2006/2007 ODPP annual report) it was estimated that public procurement worth K 71,595,161,961.37 were undertaken by 170 entities, out of the total value of procurements recorded, K 47,709,341,394.50 were procurements of goods, K 6,344,835,287.05 procurements of services and K 17,540,485,279.82 were the procurements of works. Following this explosive growth of public procurement, Public institutions and government ministries,
departments and agents with the involvement of various stakeholders decided to set up ambitious goals by paying close attention to the e-Government agenda and to modernize and improve the public procurement systems so that it is in line with internationally recognized public procurement systems which are being championed by the United Nations (UN) and World Bank to enhance transparency and compliance, increase quality and performance and the overall economic development (Mtapwata, 2007).

However despite such efforts, public entities are facing challenges to complete the entire procurement process online. In seeking reasons as to why e-procurement is progressing slowly in government institutions and ministries, this paper reviewed literature relevant to the study, for possible explanations relating to the use of e-procurement in public sector, considering both the drivers and potential challenges or barriers. Both qualitative and quantitative research design were used to collect data in order to understand the current problem and to offer recommendations for effective implementation of e-procurement solutions in the public sector.

1.2 THE RESEARCH PROBLEM

1.2.1 THE STATEMENT OF THE PROBLEM

Despite several initiatives by the Government of Malawi to provide high levels of service delivery to its citizens there have been some challenges that have prevented effective service delivery that include; lack of effectiveness and efficiency in procurement systems, lack of transparency and accountability resulting into unwarranted use of resources, fraud and corruption and failure to achieve value for money in the procurement system. The
other drawback to implement e-procurement has been lack of scholarly research and evaluation of the system to give informed facts of its advantages and disadvantages and what needs to be done to implement the system effectively (Mtapwata, 2007). The Government of Malawi further preaches the adoption of e-procurement through the e-government initiative but there is no political will to achieve such hence the slow implementation.

E-Procurement has several benefits that may be accrued after its successful implementation. These include cost reduction, increased effectiveness and efficiency, increased transparency and visibility along the supply chain and improved productivity. For instance, in 2008 private sector procurement in Sweden in 2008, had procurement costs reduced by 30 percent and this could be applicable to public sectors as well (Proceedings of the International Multi-conference on Computer Science and Technology in 2009). However, the review of literature on e-procurement literature indicates that lack of core constructs around critical factors affects the successful e-procurement implementation. These factors include end-user uptake and training, supplier selection and involvement, the integration of systems, security and authentication, senior management support and performance measurement. Another drawback is that there are few or no record of e-procurement implementation research conducted in Government of Malawi entities, investigating the availability and extent of use of e-procurement system and therefore this tried to fill this gap.
1.3 The Purpose of the Study

The principal purpose of this study was to examine the challenges affecting the implementation of e-procurement system in the public sector and to further identify the perceived benefits associated with e-procurement adoption and implementation, critical success factors and recommend the appropriate e-procurement solutions in the public sector to enhance effectiveness and efficiency of the procurement system.

1.4 Aim and Objectives

The main aim of this study was to examine the challenges affecting the implementation of e-procurement in Malawi public sector.

1.5 RESEARCH QUESTIONS

This study aimed at obtaining answers to the following Research Questions:

- What factors affect e-procurement implementation in public sector in Malawi?
- What are the challenges and benefits of e-procurement implementation in Malawi public sector?
- How can Malawi public sector implement successful e-procurement?

1.6 SPECIFIC OBJECTIVES

The following were the objectives of this study:

- To identify factors affecting e-procurement implementation in the public sector in
Malawi.

- To understand the benefits and challenges of e-procurement adoption
- To determine best strategies for e-procurement implementation in Malawi public Sector to achieve competitive advantage

1.7 The Significance of the Study

This research was aimed at examining the challenges affecting e-procurement implementation in the public sector and to offer recommendations after the results of the findings are known for successful implementation of e-procurement solutions to achieve competitive advantage. Most importantly, the study recommendations are important to lead to increased return on investment and long-term relationships with all stakeholders and improved supply chain performance and in turn improving service delivery to the public as well through operational efficiency.

1.8 The Scope and Rationale of the Study

The study was conducted in Lilongwe with a few selected public sector organizations namely, Malawi Housing Corporation (MHC), Kamuzu Central Hospital (KCH), Lilongwe City Council, Immigration Department and Malawi Defence. However, the study mainly concentrated on the challenges affecting implementation and the critical success factors for effective e-procurement implementation and not the criteria for e-procurement operations in the public sector.
1.9 Dissertation Structure

Chapter one presents a brief background of e-procurement and efforts done by the public sector in implementing e-procurement. The statement of the problem presented clarified further into the four research questions, which form the basis of the study. Therefore, this chapter outlines the importance of the study, the objectives, and the assumptions made to conduct the research in a form of research questions and lastly, the chapter illustrates how the entire report is structured.

Chapter two outlines the relevant literature in relation to the study. The chapter further discusses the factors affecting the implementation of e-procurement, the benefits of implementing the system and the critical success factors for implementing the system with references to the Malawian public sector.

In chapter three, the researcher looks at the research design and the criteria used to collect data and analyze it to come up with credible results for the study. The admissibility of the data collected is further discussed in addition to research methodology, research approach and strategy, sampling, data collection techniques, data analysis methods, and ethical considerations.

In Chapter four the results and findings of the research are discussed. The Chapter further outlines the response rate from the survey and presented the results from the study. This chapter provides the views of the respondents on the subject matter.

Chapter Five illustrates the interpretation of the results presented in Chapter Four, which were responses to the three research questions posed in this study. Furthermore,
conclusions reached are presented; study limitations and recommendations for future research studies are also drawn. Afterwards, the research references based on various data obtained from several sources are acknowledged under this. Finally, a research questionnaire is also attached as appendix to this report.

1.10 Chapter Conclusion

In this chapter, the researcher looked at the background to the research, the aim and objectives, research questions, problem statement, research rationale, conceptual framework for e-business adoption and furthermore the dissertation structure. In the subsequent chapter, the researcher will look at literature review on e-business based on academic sources, professional journals and reports and newspapers.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

In order to understand the underlying causes of challenges affecting the e-procurement implementation in the public sector, the researcher consulted several literatures as the basis for tackling the research. This chapter therefore illustrates the relevant literature obtained by first looking at the background of procurement and e-procurement, factors affecting e-procurement implementation, discussing the benefits, challenges and the critical success factors for successful implementation of e-procurement systems.
2.1 Theoretical Framework

This study adopted the technology acceptance model (TAM) framework because e-procurement can’t be isolated from technological advancement. Figure 2.1 shows the TAM framework.

![Diagram of TAM framework]


It is clear and important that the implementation of e-technologies require the understanding of the business environment that includes competition, customer requirements, the e-readiness for the organization or country and usefulness of the systems in a form of perceived benefits. Further to issues above, technologies need not be too complicated for easy adoption, understanding and usage. Simple and well-articulated technologies that provide the required benefits are easily accepted by staff in organizations and drive the desire for use. The degrees of challenges also need to be considered for the implementation of e-procurement technologies. These models fitted well with the objectives and aim of this study, hence the adoption.
2.2 CONCEPTUAL FRAMEWORK

A conceptual framework is an analytical tool with several variations and contexts used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply and assist directing the researcher to meet the intended goals of the project.

Figure 2.1: Conceptual Framework

Source: Author, 2017

2.3 BACKGROUND OF PUBLIC PROCUREMENT IN MALAWI

Malawi is a landlocked country located in the southern part Africa that was formerly known as Nyasaland. Malawi attained its independence in 1964 from the amalgamation of Rhodesia and Nyasaland. Up until 1994 when Malawi adopted a multiparty system of government, it was a one party state. Malawi is one of the least developed countries in the world and ranked 153 out of 169 countries in the 2010 UNDP Human Development Report (World Bank Assessment report, 2004). Malawi has an estimated population of about 17 million, with its capital city in Lilongwe and other cities include, Blantyre –the commercial city and Mzuzu (www.malawi.gov.mw).
It is very pathetic to note that 63 percent of the population lives below the poverty line and that the public is also deprived of the necessary public service due to several reasons that include lack of transparency, inefficiencies, corruption and fraud and lack of the necessary skills. In the past years prior to 2003, procurement in the Malawian public sector was not being given the required attention and public funds were not put to good use and this resulted into ineffectiveness of the public procurement system. During this period procurement was characterized by delays in the procurement process, inefficient and maverick buying, poor business processes, lack of adequate organizational or individual capacities poor documentation and procurement management (Procurement Capacity Assessment Report, 2004).

In order to combat the above challenges, Government of Malawi made several reforms to its procurement system through the assistance of donors such as the World Bank (WB), European Union (EU0 and United Nations and decentralized the procurement system, and furthermore enacted a Public Procurement Act 2003 as a guideline for public procurement to achieve efficiency, transparency and value for money in public procurement.

The Public Procurement Act 2003 provided a new legal framework governing public procurement in the public sector and also provided for the establishment of the Office of the Directorate of Public Procurement (ODPP) which acts as an overseer of public procurement (Procurement capacity assessment and strategy formulation case study in Malawi 2010). The ODPP regulates public procurement to ensure transparency, fairness, accountability and value for money in public procurement by ensuring that public entities
conform to legal requirements and comply to procurement procedures set in the Act (www.odpp.gov.mw).

According to the ODPP Annual Report (2006/2007) the principal roles of the ODPP include:

- To monitoring the performance of public institutions in the way they conduct procurement proceedings to ensure efficiency.
- To assist in the development and enhancement of efficient and effective public procurement systems
- Promotion of the development of a professional workforce by organizing and conducting training programs to public entities and private sectors to enhance government-wide policies.
- Provide oversight, monitoring and regulating all public procurement to ensure fairness, openness, transparency, accountability and value for money (VFM).
- The ODPP is further mandated to propose improvements in public procurement procedures; and

2.4 Definition of Procurement

Procurement involves the acquisition of goods, works and services in the right quality, quantity, at the right time, delivered to the right place and at from the right source, in return for a monetary or equivalent payment (Lysons et al 2006). Procurement also refers to all the activities that are involved in obtaining items from a supplier, and includes purchasing
and inbound logistics issues such as transportation, goods-in and warehousing before the item is used or consumed by the final consumer (Cascapera, 2007).

Cascapera (2007) observed that procurement activities can be grouped and defined in three main ways: indirect procurement, direct procurement and sourcing.

2.4.1 Public Procurement

Public Procurement on the other hand refers to the activities that are involved through which government ministries, departments or agencies purchase goods and services from the private sector by following good public practices as stipulated in the Public Procurement Act (www.positivepurchasing.com). While World Bank (2010) defines public procurement as the process of obtaining goods, services and works using public funds. According to the (Desk Instructions guidelines of public procurement). Public procurement processes slightly differs depending on the system or method of procurement used which include open tendering-used for readily available off the shelve goods and when the estimated value is low, selective tendering-used by the procuring entity to solicit tenders from a minimum number of three suppliers known to the procuring entity, single sourcing-single source procurement used where procurement is of low value, Request for Quotations (RFQ) or Request for Proposal (RFP), and two stage tendering-used when procuring goods, works and services that are very technical and complex in nature, in addition to the type and value of goods to be procured (goods, works, routine services or consultancy services). However, despite differences in the characteristics of each method, public procurement follows basic processes that involves, procurement planning, Bid document preparation, inviting bids, receiving and opening bids, bids evaluation, award of contracts, contract management and performance evaluation (vendor rating).
- **Procurement Planning**: This is the first stage in the procurement process and it entails establishing legal and institutional framework in which procurement must be carried out and identifying core activities to be carried out in this stage include the preparation of the description of requirement, budgets, sources of supply and determining the method of procurement to be used.

- **Preparation of the bidding documents**: The second stage in the procurement system involves the preparation of the bidding documents to manage the bidding process, there are three major types of bidding documents which include, the Requests for Quotation (RFQ) which is used for off the shelf goods and minor works, national competitive bidding (NCB) documents which are used for goods and works above the RFQ and the international competitive bidding (ICB) documents used where the value of procurement is very high above the NCB.

- **Invitation of bids**: This stage requires national competitive bids (NCB) to be advertised in national (local) Newspapers and specialized journals and it must be open for 30 days between the date of issue and the closing date of receiving bid. International competitive bidding (ICB), however, must be advertised in both national and international newspapers and journals and must allow for 45 days between date of issue of bidding documents and the closing date.

- **Receiving and opening of the bids**: At this stage bids received from the bidders must be correctly sealed and marked with the appropriate reference number and bidders are instructed on the submission of the bids and the day of opening of the bids. Opening
of bids is open to the public and it is normally done by a team normally chaired by IPC representatives.

- **Evaluation of the bids**: Evaluation of bids is done by the evaluation team which draws a good evaluation plan so as to ensure that offers meet requirements and they evaluate according to the pre-determined criteria.

- **Award of contracts**: This is the last stage in the public procurement process where contracts are awarded to the successful lowest evaluated bidders, it is also necessary to brief unsuccessful bidders as this forms the basis for supplier improvement.

### 2.5 E-Procurement

#### 2.5.1 History and Definition of E-procurement

Before e-procurement started, organizational procurement process as described above was complete a traditional involving the use of a lot of paper transactions, slow and inefficient system with low productivity and lots of errors as well. There were unnecessary delays in the procurement system and this affected service delivery (Gueritz, 2001). A simple procurement could take on average seven to ten days while using e-procurement systems the whole process could be completed in just a day.

According to Gueritz (2001) and Lysons et al (2006), the commonest inefficiencies of the traditional purchasing system include:

- Non value adding activities in procurement system
- High error rate and increased lead time
- Maverick buying and failure to achieve value for money
- Increased costs through non-value adding activities
- Excessive time in processing orders, both internally and externally.

The above factors facilitated the embracing of electronic technologies to improve on procurement system and achieve competitive advantage for entities by creating efficient workflows and processes that eliminate these inefficiencies but without disrupting the core business activities (Cascapera, 2007). E-procurement involves online entry, authorization and placing of orders using a combination of electronic data entry forms, scanned documents and emails based workflow (Cascapera, 2007).

E-procurement involves activities that create online purchase request, authorization, ordering, tracking deliveries and payment between a purchase and a supplier (Chaffey, 2004). The term e-procurement is usually used to describe the use of electronic technologies or methods, typically over the Internet to conduct procurement transactions in a Business to Business (B2B) environment. Therefore the process of e-procurement covers every stage of purchasing ranging from the identification of need, through the bidding process, to the payment and potentially the contract and supplier management (Cascapera, 2007).

**2.5.2 BENEFITS OF E-PROCUREMENT**

It has transpired that most organizations worldwide, irrespective of their size and the nature of their businesses could have a considerable scope for realizing cost savings through e-procurement. Some benefits of e-procurement include:
- **Lower process cost**: the use of e-procurement saves process costs and increased speed of transaction processing (Gueritz, 2001).

- **Lower transaction costs when combined with process re-engineering**: In the traditional procurement process, there is a large freight of documents such as requisition, purchase order and invoice which gets prepared and transported within an organization and across organizations, administrative effort put into preparing these documents can be greatly reduced via e-procurement (Lysons et al 2006).

- **Enhanced supply chain visibility**: e-procurement enhances visibility in the supply chain which enables parties within the network to share information and make necessary forecasting and replenishment programs which results in satisfying the demand.

- **Increases transparency and accountability**: e-procurement limits maverick buying and therefore increases transparency and accountability (Cascapera, 2007).

- **Lowers administration costs**: By removing administrative tasks such as placing orders and reconciling deliveries and invoices with purchase orders, buyers can spend more time on only value-adding activities such as supplier management and development, improve product delivery, cost analysis and controlling purchases and contract management (Chaffey, 2002).

Ivanovska (2004) in her research stated that implementing e-procurement technology in an organization results to obtain following benefits:
- Purchasing process can be contributed to all employees due to easy operation and self-service of e-procurement system; in this case everybody can access procurement process with just a web browser.
- Reduction in process and cycle time and
- Cost saving

Ivanovska then concluded that as an important management tool e-procurement system improves the performance in the supply chain. By substituting traditional paper-based purchasing process with new online process, great saving, improved operational efficiency and enhanced productivity can be obtained.

Another research by Parida (2007) concluded that e-procurement's benefits fall into two major categories: efficiency and effectiveness. Efficiency benefits include lower procurement costs, faster cycle times, reduction of maverick buying, well defined reporting information system and tighter or strong integration of the procurement functions with other key back-office systems. Effectiveness benefits on the other hand include increased control over the supply chain activities, proactive management of the key data, and higher-quality purchasing decisions within the organizations.

Even though e-procurement brings so many benefits, there are also barriers and risks to consider when implementing e-procurement solutions. Risks may include technology risks, integration and compatibility with systems and the business models that these technologies impose on supplier-customer relations and with the security and control mechanisms required to insure their appropriate use.
2.5.3 Barriers and risks of E-procurement

Despite the many proven benefits for implementation of e-procurement, there is evidence that very few organizations and individuals value e-procurement. For example according to a research by Freddie et al, (2007), it was discovered that only 48 percent of respondents indicated that they were able to conduct e-procurement effectively. There is need to realize full potential and the need to eliminate all barriers or challenges to e-procurement.

- **Culture and top management**: enabling culture and top management support is important for ensuring that e-procurement can be effectively be implemented, Carayannis et al.,( 2005) observed that public procurement faces a lot of deficiencies and problems which include complicated procedures, bureaucracy, large volumes of paperwork, lack of flexibility and information quality and resistance to change and that leadership requires management of change in order to create the culture conducive for adoption of e-procurement and reap the benefits.

- **Lack of IT infrastructure resources and poor technical expertise**: lack of proper infrastructure makes it impossible for an organization to adopt certain technologies including e-procurement. Likewise lack of proper expertise in the company makes it impossible for the company to operate its IT operations (Freddie et al, 2007).

- **Poor supplier relationships**: procurement successful implementation can be hindered if there is a poor relationship with suppliers. Supplier involvement is of paramount importance so that they should have knowledge and be familiar with the new system. Hawking et al (2004) identified the lack of business relationships with suppliers as a barrier to e-procurement adoption.
• **Security Issues**: there are a lot of security challenges and risks associated with conducting business online. For example, confidential information may be hacked or leaked to unauthorized users who may corrupt the system. Jennings (2001) states “The World Wide Web leaks like a sieve. Data transmitted on it can be garbled, can reassemble wrongly at the other end, or can display only partially because of incompatible software”. This entails that careful selection and management of technologies is an important part of the system

• **Lack of e-procurement knowledge**: Cascapera (2007) observed that lack of e-procurement knowledge can occur when the company has an older generation of employees that are change resistant regarding IT related issues, relying on traditional forms and means of procurement, which can be solved by training employees and by creating a knowledge sharing centre to spread the IT concept of e-procurement through the organization’s change agents or key personnel

• **Legal issues**: Lack of legal framework or varying framework make the adoption and implementation of e-procurement and ICT solutions difficult. These include lack of specific legal regulation, different national approaches and validity, enforceability and evidentiary problems

2.5.4 FORMS OF E-PROCUREMENT

2.5.4.1 E-SOURCING

E-sourcing is referred to as the process of determining long-term demand requirements for goods or services and identifying potential sources to fulfill those requirements through
a faster and more efficient way by selecting suppliers, negotiating the purchase agreements and managing the suppliers' subsequent performance via the web (Cascapera, 2007).

Some of benefits of e-sourcing are that e-sourcing improves worker collaboration because these web-based applications can be accessed by all of the departments in a company. For example if an RFP is being prepared in order to purchase direct materials needed for a new project, then all of the functional teams and departments involved can use the applications to contribute to the RFP. This reduces resistance and enhances coordination (Epiq Technologies, 2010). E-sourcing also helps the firm to identify sources of supply in advance. E-sourcing applications, however, provide tools which let businesses organize and compare supplier information more effectively (Epiq Technologies, 2010).

2.5.4.2 E-CATALOGUES

The e-catalogue is a web-based form that provides information on the available products and services being offered and sold by a vendor and it further supports online ordering and payment capabilities (Lysons et al, 2006). In a nutshell, e-catalogue is an online presentation of information on products and services being offered and sold by an organization. These may be goods and accompanying services, often with various options and models. Typically, these are presented in a printed brochure or catalogue. The e-catalogue is available to everyone, any time of the day or night, anywhere in the world (Cascapera, 2007). Lysons et al (2006) identified some of the benefits of e-catalogues as follow:
• Facilitates real-time two way communication flow between buyers and suppliers.
• Allows for the development of closer purchaser-supplier relationships due to improved information on products.
• Enables suppliers to be responsive to market conditions and requirements by adjusting prices and repackaging
• It eliminates the time lag between the generation of a requisition and the issuing of purchase order by a catalogue user.

Cascapera (2007) further observed that e-catalogues reduce marketing cost by eliminating printing expenses, distribution costs, improve customer service level with instant catalogue availability and updated information, time and cost reduction in maintaining an updated and accurate product catalogue, improved access to product catalogues and standardizing and providing multiple search criteria to be easily found, that can be coupled with online payment system.

2.5.4.3 E-TENDERING

E-tendering has been defined as the process of sending requests for information and prices to suppliers and receiving the responses of suppliers using Internet technology (www.e-tendering). Therefore-tendering software facilitates and manages a tender process electronically (www. Supplier.select.com), the process involves activities such as issues like, sending of tender documents such RFQ by email or web based system and
placing notifications on the web allowing bidders to download documents. According to (local e-government 2003) some of the benefits of e-tendering include:

- Reduction of tender cycle time
- reduction of manual tasks such as receipt, recording and distribution of tender submission thereby improving efficiency of the procurement system

2.5.4.4 E-AUCTION

According to Lysons et al (2006), e-auction is an advancement of e-catalogue and it is defined as a market, which can exist in both business to business (B2B) and business to consumer (B2C) context where by sellers offer goods or services to buyers through a website with a structured process for price setting and fulfillment. The EU Directive on procurement, (2004) defines e-auction as a repetitive process involving an electronic device for the presentation of new prices, revised downwards, and/or new values concerning certain elements of tenders, which occurs after an initial full evaluation of the tenders, enabling them to be ranked using automated evaluation methods.

E-auctions have proved to be more efficient and transparent way of doing business as part of a full procurement process, especially where negotiations are required as the process reduces the time of doing negotiations through online competitive negotiations. Through e-auctions buyers can identify the best possible price for a set quality and that online competition allows bidders to underbid the bids of their competitors (Hawking et al 2004),
thereby reducing costs of acquisition. Cascapera (2007) identified some types of e-auction that include the following:

- **Reverse e-auction**: reverse auction involves the process where the buying organization controls the market by posting the items they wish to buy and the price that they are willing to pay while suppliers compete to offer the best price.

- **Forward e-auction**: this is when the supplier offers a product to numerous buyers, where the supply and demand sets the price and the supplier controls the market because a product is being offered to “x” number of buyers. Here, the price offered by the buyer continues to increase until a reasonable price is met.

### 2.5.5 CRITICAL FACTORS FOR THE SUCCESSFUL IMPLEMENTATION OF E-PROCUREMENT IN THE PUBLIC SECTOR

Effective e-procurement system requires consideration of some strategies and critical factors in order to realize the full benefits of the system. Some of the critical success factors are discussed below:

- **End-User Uptake and Training**: As new technologies are adopted for use, there is a strong need to train staff in new procurement practices and the use of e-Procurement tools. End users must be included in the training to avoid resistance to adoption so that they realize the immediate benefits of the e-Procurement system once they understand the operational functionalities. (Vaidya, 2006)

- **Re-engineering the existing purchasing process**: Angels (2005) observed that process re-engineering would be essential where existing procurement practices and procedures may contradict with the goals and objectives of the new initiative.
Birks et al. (2001) stated that “The high degree of re-engineering of the process is positively associated with the practices and processes implementation perspective of an e-procurement initiative”

- **Supplier Involvement:** It has been observed that the successful implementation of e-procurement is closely related to early supplier involvement (ESI). It is therefore important to demonstrate the proposed solution to the suppliers and discuss any necessary changes, issues, and concerns before rolling out e-procurement tools to avoid resistance by suppliers (Birks et al. 2001). This initiative gives an opportunity for the suppliers to have a great understanding of the proposed system and encourages strong relationship which is vital for the successful implementation of e-procurement systems.

- **System Integration.** The successful implementation of e-procurement system requires a detailed understanding of the level of integration required between the e-procurement solution and existing information systems (KPMG 2001). For example, linking of the e-procurement system to the financial management system (FMS) in order to facilitate the process of online payment to suppliers.

- **Top Management support:** top management is crucial to ensuring successful implementation of technologies by way of leadership, provision of resources, training and support. Top management has to lead by example in the implementation of e-procurement. This would assist in reducing resistance to change. Vaidya (2006) states that there is little doubt that senior management leadership is critical to the success of an e-procurement implementation and that top management steering team must be composed of the project managers, any
consultants working with the committee, and agency staff to develop an implementation strategy.

- **Security and Authentication**: since government data is very sensitive and also considering the legal nature of orders and payments, security of data is critical in e-Procurement systems. E-procurement system must have mechanisms for identifying and authenticating the user who places an order so that the supplier knows it is safe to fulfill the order (Birks et al. 2001). The use of password protected systems which must be frequently revisited is essential in the implementation (Jennings, 2001). Government should include establishing appropriate authorization privileges and authentication measures, logical and physical access controls, adequate infrastructure security to maintain appropriate boundaries and restrictions on both internal and external user activities and data integrity of transactions, records and information.

- **Performance Measurement**: Continuous performance measurement and improvement of systems is regarded as vital to the successful delivery of the business case. Measurement drives behavior and is a key to making the change a success (Birks et al., 2001). There is need to establish clear goals and baselines for implementation and performance measurement. According to (KPMG 2001), lack of measurement capability ensures management has only limited tools for assessing organizational progress and proposes that there is need to define key performance indicators (KPIs) early in the process to enable successful benefits tracking and instill the business case into measurable KPIs. These KPIs should then be monitored throughout the project implementation.
2.6 Chapter Conclusion

This chapter discussed literature on the definition of procurement and e-procurement, challenges associated with e-procurement, forms of e-procurement, the benefits, challenges and the critical success factors for effective implementation of e-procurement system. The subsequent chapter will discuss the methodology used for the research, the research approach, strategy, data collection techniques and its analysis methods.
CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the researcher discusses the research design to conduct the research. Therefore this chapter serves to describe the research methodologies which were used in the research, the approach, strategy, the criteria for the selection of the participants, the sample size, sampling methods, data collection techniques, data analysis. The methodology is the research design for this study. Research design is the blueprint that links the empirical data collection to the initial research questions and the eventual conclusion (Jacobs, 2007).

3.1 Methodology

This study was designed to examine the factors affecting the successful implementation of e-procurement by considering mainly the challenges and also at the same time ascertaining the causes and or relationships of that phenomenon to other phenomena. This study adopted an epistemological paradigm and an interpretive philosophy because the study is based on knowledge gaining only. Therefore considering there search questions and the objectives that were raised in the introductory part of this study, both qualitative and quantitative research approaches were adopted to arrive at credible and meaningful results and recommendations. The study also adopted a descriptive, cross sectional study which enables the researchers to among other things describe the phenomena or characteristics associated with a subject’s population (the: who, what, when, where and how of a topic), estimate the proportions of a population that have these characteristics and discover the associations among different variables (Saunders et al,
A case study was also ideal for the study as it provided ample time to properly collect and analyze data from the sample population. Refer Figure 3.1- Research Onion below for the design of research.

**Figure 3.1: Research Onion**


### 3.1.1 Qualitative Approach

Qualitative approach to research is concerned with the enquiry of a social or human problem (Creswell, 1998). Reis (2007) defines qualitative research approach as a research aimed at understanding human behavior. Basically, qualitative research is descriptive in nature as is mainly concerned with describing things.
3.1.2 Quantitative Approach

On the other hand, quantitative research is mainly concerned with numbers (Walliman, 2011), and in this research figures related to number of respondents, gender, profession, ages including the number of users of e-procurement systems and other quantification necessary for this study.

This study adopted both qualitative and quantitative research approaches to collect and analyse data and triangulate it for enhanced credibility.

3.2 Research Strategy

The study adopted a case study strategy and therefore it was conducted in Lilongwe and focused on Malawi government departmental offices in Lilongwe City. Systematic Random sampling was used to select the government offices to be included in the study then purposive. Then from one department per institution persons were administered with questionnaires. In a few circumstances a face to face discussion was conducted with few individuals. In addition to the systematic random sampling, purposive judgmental sampling was also be used to select only those employees having hands on experience with the procurement duties.

Sampling

In this study, the researcher adopted a combination of sampling techniques. Systematic random sampling technique was used to identify the entities to conduct research and secondly purposive sampling was later adopted to identify the actual respondents for the study to provide the necessary information.
3.3 Sample Size

This study had a sample size of 113 respondents to which semi structured questionnaires were administered from the five public institutions namely: Lilongwe City Council, Malawi Housing Corporations, Malawi Defence Force, Kamuzu Central Hospital and Immigration Department as follow:

<table>
<thead>
<tr>
<th>Entity</th>
<th>Number of Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilongwe City Council</td>
<td>22</td>
</tr>
<tr>
<td>Malawi Housing Corporation</td>
<td>22</td>
</tr>
<tr>
<td>Malawi Defense Force</td>
<td>25</td>
</tr>
<tr>
<td>Kamuzu Central Hospital</td>
<td>22</td>
</tr>
<tr>
<td>Immigration Department</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>113</strong></td>
</tr>
</tbody>
</table>

3.4 Data Management

The collected data was entered into MS Access and all information about participants and department was identified by study numbers and not names. Each participant and department was allocated a unique code number that was used in all subsequent stored data records.

3.5 Data Analysis

Data was analyzed using excel package for quantitative data and themes for all qualitative or descriptive data. Graphs such as bar graphs, pie charts have been prepared to support
the data while also supporting the presentation of qualitative data through the thematic areas of concentration.

3.6 Ethical Considerations

Permission was sought from relevant authorities before data was collected from the respondents, and the respondents were encouraged to fill the questionnaire and thoroughly assured that their information will not be disclosed to others without their consent.

All data has been treated with utmost confidentiality and will not be shared to a third party without the consent of the concerned respondents.

The researcher further ensured that minors were not involved in the study as that would have been breach of ethics as minors do not have the capacity on their own unless consent is obtained from an adult guardian.

3.7 Chapter Conclusion

This chapter discussed the methodology for the research, the research approach, strategy, sampling techniques, data collection techniques, data analysis and ethical consideration for the study. The subsequent chapter will present the findings from the study.
CHAPTER 4: RESULTS AND FINDINGS

4.0 Introduction

This chapter presents and discusses the findings from the study. Data was obtained and analyzed based on the research questions and results presented as discussed in this chapter. These have been outlined below:

4.1 Findings from Primary Data

4.1.1 The Respondents’ Gender

Respondents were asked about gender. Figure 4.1 below illustrates the findings.

**Figure 4.1: Gender of Respondents**

![Gender of Respondents](image)

It is noted from Figure 4:1 above that 45 out of 91 respondents representing 49 percent were males, while the remaining 51 percent of respondents were females. This means that there were more women than men among the respondents.
4.1.2 The Ages of Respondents

The study respondents were asked about their ages. Figure 4.2 below illustrates the findings.

Figure 4.2: Bar Graph Showing Respondents’ Ages

It is noted from Figure 4:2 above that 58 out of 91 respondents representing 64 percent of the respondents were within the age range of 19-35 years, 30 out of 91 representing 33 percent were within the age range of 36-55 years old while the remaining 3 percent were respondents above the age of 55. This therefore means that there were more respondents in the youth category (i.e. age category of 19 -35 years) than the other categories indicated herein.

4.1.3 Marital status of respondents

Respondents were asked about their marital status whether they were married, single or other information such as widowed. Figure 4.3 below illustrates the findings.
It is noted from Figure 4.3 above that 29 out of 91 respondents representing 32 percent were single, 54 out of 91 respondents representing 59 were married and the remaining 8 respondents out of 91 representing 9 percent were either divorced, widowed or did not want to disclose their marital status. This means that there were more married respondents in this study than single and other categories.

4.1.4 Response Rate

The survey was conducted in government departments. 113 questionnaires were circulated to the heads and deputies of procurement departments including the secretariat at the Malawi Housing Corporation (MHC), Lilongwe City Council, Kamuzu Central Hospital (KCH), Malawi Defence Force (MDF) and Immigration department respectively. Out of 113 questionnaires that were distributed only 92 members of staff responded to the questionnaire, equivalent to the response rate of 81 percent which means that on average
22 questionnaires were distributed to each institution except MDF where 25 questionnaires were distributed. This was due to convenience.

The Table 1 below indicates the responsive rate of the questionnaires that were sent to the departments under study and the response rate

**TABLE 4.1 RESPONSE RATE**

<table>
<thead>
<tr>
<th>Number of circulated Questionnaires</th>
<th>Number of Questionnaires completed and received</th>
<th>Response %</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>92</td>
<td>81%</td>
</tr>
</tbody>
</table>

The above Table 4.1 indicates that out of the 113 questionnaires that were sent to the five public institutions, only 92 were completed and returned. This represents a response rate of 81%, which is above average, and acceptable for a study, based upon Walonick (2004: 109).
4.2 RESULTS OF THE SURVEY

Results on the Challenges Affecting the Implementation of e-Procurement in the Public Sector based on the objectives and research questions

4.2.1 Whether e-procurement is available and in use in the public sector

Table 2 below summarizes the responses obtained from question 1 to 3 on the questionnaire as to whether e-procurement is available and in use in the departments under study.
TABLE 2

<table>
<thead>
<tr>
<th>variables</th>
<th>response</th>
<th>total</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization using any form of e-procurement</td>
<td>yes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>non-response</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Total questionnaires</td>
<td>92</td>
<td>92</td>
<td>100</td>
</tr>
</tbody>
</table>

Graphically the information is represented below

Figure 1

**percentage response to organizations using e-procurement**

TABLE 3
The table 3 presents the findings on question 2 on the questionnaire which assesses the overall percentage usage of e-procurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage asked</th>
<th>Overall percentage usage</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of procurement activities undertaken</td>
<td>0-25%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>26-50%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>51-75%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>76-100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>non-response</td>
<td>92</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>92</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Graphically the information is represented in the below figure
Figure 2

% of response not using any form of e-procurement

<table>
<thead>
<tr>
<th>% of response</th>
<th>% of response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25%</td>
<td></td>
</tr>
<tr>
<td>26-50%</td>
<td></td>
</tr>
<tr>
<td>51-75%</td>
<td></td>
</tr>
<tr>
<td>76-100%</td>
<td></td>
</tr>
<tr>
<td>Non-response</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3 indicated that all public entities do not use any form of e-procurement as indicated below.

Figure 3

% of respondents

<table>
<thead>
<tr>
<th>% of respondents</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-response</td>
<td>100</td>
</tr>
<tr>
<td>E-mailing</td>
<td>0</td>
</tr>
<tr>
<td>E-sending of invoices</td>
<td>0</td>
</tr>
<tr>
<td>E-auction</td>
<td>0</td>
</tr>
<tr>
<td>E-payment</td>
<td>0</td>
</tr>
<tr>
<td>E-marketplace</td>
<td>0</td>
</tr>
<tr>
<td>E-catalogue</td>
<td>0</td>
</tr>
<tr>
<td>E-sourcing</td>
<td>0</td>
</tr>
<tr>
<td>E-ordering</td>
<td>0</td>
</tr>
<tr>
<td>E-informing</td>
<td>0</td>
</tr>
</tbody>
</table>
The response indicated that currently public entities do not practice e-procurement as a modern way of procuring products. Table 1 indicates that all 92 respondents indicated no to the use of e-procurement and from figure 3, it showed that no any form of e-procurement is currently in use which provides a clear picture that e-procurement is not available and in use in the Malawian Public sector.

4.2.2 Assessment of the benefits to be accrued if e-procurement system is fully implemented in the public sector

The aim was to find out if implementing e-procurement will assist the public sector to accrue desired benefits. 21% respondents indicated that implementing e-procurement will result to reduced lead time, 14% indicated reduced administration costs, 7%-increased transparency, 14%-reduced processing costs, 28% indicated reduced maverick buying, and 7% indicated easy access to raw materials and suppliers respectively.
### TABLE 4: Showing the percentage of respondents on the benefits to be accrued

<table>
<thead>
<tr>
<th>benefits to be accrued</th>
<th>Response from the members out of 5 Institutions</th>
<th>Agreeing %age of Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced lead time</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>reduced admin cost</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>enhance transparency</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>reduced processing cost</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>reduced maverick buying</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>easy access to supplier</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>access to quality materials</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
FIGURE 4: Bar graph showing the responses on e-procurement benefits

Agreeing percentage of Respondent to the benefits to be accrued

- access to quality suppliers
- easy access to supplier
- reduced marverick bu
- reduced processing c
- enhance transpare
- reduced admin cost
- Reduced lead time

Agreeing %age of Respondent

FIGURE 5: Pie Chart Showing the Perceived Benefits of E-procurement implementation

Agreeing percentage of Respondent

- Reduced lead time: 22%
- reduced admin cost: 14%
- enhanced transpare: 8%
- reduced processing c: 14%
- reduced marverick bu: 26%
- easy access to supplier: 8%
- access to quality suppliers: 8%
4.2.3 Identifying challenges affecting the implementation of e-procurement in the public sector

The respondents were asked about the challenges that affect e-procurement implementation in the public sector and below are the responses.

**Figure 4.2**

<table>
<thead>
<tr>
<th>challenges</th>
<th>Number of Respondents</th>
<th>Agreeing percentage of Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor managerial support</td>
<td>57</td>
<td>63</td>
</tr>
<tr>
<td>organization culture</td>
<td>59</td>
<td>65</td>
</tr>
<tr>
<td>lack of IT infrastructure</td>
<td>46</td>
<td>51</td>
</tr>
<tr>
<td>lack of trained personnel</td>
<td>59</td>
<td>65</td>
</tr>
<tr>
<td>lack of supplier involvement</td>
<td>46</td>
<td>51</td>
</tr>
<tr>
<td>information security fears</td>
<td>32</td>
<td>35</td>
</tr>
<tr>
<td>legal issues</td>
<td>39</td>
<td>43</td>
</tr>
<tr>
<td>Cost</td>
<td>52</td>
<td>57</td>
</tr>
</tbody>
</table>
It is noted from the figure 4.2 above that the main challenges affecting implementation of e-procurement in the public sector are as follows:
Out of 91 respondents, representing 65 percent agreed that lack of trained personnel and organizational culture are the challenges affecting e-procurement implementation. While 57 respondents, representing 63 percent agreed that poor management is the challenge. Cost has also been identified as a challenge by 52 respondents, representing 57 percent and lastly lack of supplier involvement has also been identified by 46 respondents out the 91 respondents representing 51 percent of respondents. This therefore means that the main challenges for failure to implement e-procurement in public sector include organizational culture and lack of trained personnel followed by poor management, cost and lastly lack of supplier involvement.

4.2.4 Identifying the level of commitment from all stakeholders in applying critical success factors towards the implementation of e-procurement in the public sector

The idea was to find out from members of staff roles to be played by all stakeholders involved in implementing e-procurement. The study gathered different views from the respondents on what their organizations with the support from the government should do so as to ensure that e-procurement strategies are successfully implemented. It was found from the research that critical success factors provide a row towards the implementation of e-procurement.
TABLE 6: Shows factors to be considered for the implementation of e-procurement in the public sector.

<table>
<thead>
<tr>
<th>Critical success factors</th>
<th>Number of Respondents Agreeing</th>
<th>percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance Managerial support</td>
<td>65</td>
<td>71</td>
</tr>
<tr>
<td>identify and authenticate system users</td>
<td>52</td>
<td>57</td>
</tr>
<tr>
<td>system integration with other</td>
<td>52</td>
<td>57</td>
</tr>
<tr>
<td>end user training</td>
<td>64</td>
<td>70</td>
</tr>
<tr>
<td>consolidate and (ESI)</td>
<td>52</td>
<td>57</td>
</tr>
<tr>
<td>non-response</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 8: Pie chart showing critical success factors

It is noted from the above figure that the critical success factors for e-procurement implementation include, enhanced managerial support which has been agreed by 65 out
of 91 respondents, representing 71 percent; end user training as identified by 64 respondents representing 70 percent; and 52 respondents representing 57 percent of respondents agreed that identification of system users, system integration and consolidation and early supplier involvement (ESI) are some of the critical success factors for a successful e-procurement implementation. This therefore means that all the above critical success factors are vital for e-procurement implementation in the public sector.

4.3 Chapter Conclusion
This chapter discussed the study findings from the primary data obtained from the 91 respondents out of the 113 participants planned for the study. The respondents identified the perceived benefits of e-procurement implementation, challenges and the critical success factors for successful implementation of e-procurement in the public sector. The subsequent chapter will discuss the conclusions and recommendations for the study.
CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the conclusions and recommendations made from the research finding presented and discussed, in chapter 4. The following conclusions have therefore been and recommendations made to assist in effective implementation of e-procurement in the public sector and enhance service delivery and efficiency.

5.1 Conclusion

Three important questions were raised in this research. The first was “What factors affect e-procurement implementation in public sector in Malawi?” The second was “What are the benefits and challenges of e-procurement implementation in Malawi public sector?” The last question was “How can Malawi public sector implement successful e-procurement?” Based on outcomes of the study, the following conclusions were made.

RQ 5.1.1: What are the benefits and challenges of e-procurement implementation?

Benefits

5.1.1.1 Reduced procurement lead time

5.1.1.2 Enhanced transparency

5.1.1.3 Reduced maverick buying challenges

5.1.1.4 Lack of trained Personnel

5.1.1.5 Cultural Resistance
5.1.1.6 Lack of Managerial Support

RQ 5.1.2: How can Malawi public sector implement successful e-procurement?

5.1.2.1 Enhanced managerial support

5.1.2.2 End user training

In conclusion, failure of the public entities to fully implement e-procurement is principally due to the challenges faced by those organizations which amongst them include: Poor managerial support; lack of top management commitment; lack of IT infrastructure, Cultural problems and lack of trained personnel. The study provides evidence that electronic procurement is not currently being used in the public sector due to the above mentioned factors hence a need for the organizations and the government to address such problems efficiently.

From the questionnaire survey results it has been shown that respondents quietly agree that the implementation of e-procurement will bring in a lot of benefits to their organizations and the national as a whole. Government is likely to save public funds leading to national development. E-procurement will increase transparency and improve the procurement system more than the traditional purchasing system leading to the efficient distribution of public funds. However the successful implementation of the system requires much great effort and a more planned approach which should embrace the input of both users and suppliers to have a good interface.
In conclusion, relative to the statement of the problem, the public sector in Malawi is negatively facing challenges towards the implementation of e-procurement which need great considerations.

5.2 Recommendations

Based on conclusions of this research and to enhance the successful implementation of e-procurement in the public sector, the following recommendations are suggested:

5.2.1 Recommendations to Government of Malawi

I. The Government of Malawi must provide necessary infrastructure such as reliable network and adequate computers in the public sector for the successful adoption and implementation of e-procurement to improve the procurement system which is currently marred with a lot of inefficiencies and corruption.

II. The Government of Malawi must take a deliberate effort to reduce IT/ICT equipment that could facilitate the implementation of e-procurement.

III. The Government of Malawi could introduce e-procurement curriculum in its institutions of higher learning so that procurement professionals are equipped with the necessary knowledge prior to joining the industry to avoid resistance to change.

IV. The Governments of Malawi to enact e-procurement ACT as part of public procurement to increase efficiency of the public procurement.

5.2.2 Recommendations to Executive Management of Public Entities

The following recommendations are made to Executive management.

I. Executive management to assess their spend analysis and pilot e-procurement systems to monitor the benefits. Once satisfied, the system could be rolled fully.
II. Executive management to identify e-procurement champions to oversee its implementation who will deemed role models.

III. Executive management to involve staff starting from the planning, designing, installation and implementation stages to avoid resistance by employees.

5.2.3 Recommendation to Employees

The following recommendations are made to employees of the public sector. Employees to acquire necessary e-procurement skills through networking and attending procurement training at institutions such as Malawi Institute of Management

5.3 Recommendations for Future Studies

This study only looked at the factors affecting implementation of e-procurement, its benefits, challenges and critical success factors in the public sector, but the study was not exhaustive of all the parameters to be evaluated regarding the challenges affecting the implementation of e-procurement in the public sector. Further studies or research could be undertaken in the following areas:

- Analyzing the impact of political will in implementing e-procurement in the public Sector.
- The role of suppliers towards the successful implementation of e-procurement in Malawi.

5.4 Chapter Conclusion

In this chapter, the researcher draws conclusion and makes recommendations from the conclusions. The researcher recommended that Government of Malawi must provide
necessary infrastructure, develop e-procurement curriculum for high learning institutions, reduce ICT equipment prices by removing some taxes and enact the e-procurement ACT to be incorporated in the public procurement ACT, 2003. The researcher recommends that executive management must identify change agents and involve staff in all stages of the e-procurement implementation in their institutions. Furthermore, employees require acquiring skills in e-procurement for efficiency purposes and improved service delivery within the public sector.
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QUESTIONNAIRE

ASSESSING THE CHALLENGES AFFECTING THE SUCCESSFUL IMPLEMENTATION OF E-PROCUREMENT IN THE MALAWI PUBLIC SECTOR: THE CASE OF KAMUZU CENTRAL HOSPITAL, LILONGWE CITY COUNCIL, MALAWI DEFENCE FORCE AND MALAWI HOUSING CORPORATIONS

RESEARCH STUDY CONDUCTED BY MADALITSO KANYAMBO IN PARTIAL FULFILMENT OF MASTERS DEGREE IN SUPPLY CHAIN MANAGEMENT AT THE UNIVERSITY OF BOLTON-MIM CAMPASS MALAWI

INTRODUCTION

I would like to collect data on the challenges faced by the public sector on implementing e-procurement. Your organization has been selected as part of a survey. The information you provide will help to identify challenges in implementing e-procurement strategies and also to provide possible solutions that will help various public entities to develop effective e-Procurement strategies so as to improve the efficiencies in the public procurement system and attain the desirable benefits as required for the sustainable development of the country. For the aim of this project, e-procurement refers to the electronic integration and management of all procurement activities containing purchase request, authorization, ordering, delivery and payment between a purchaser and a supplier.
**INSTRUCTIONS**

(1) Where the questions are not applicable to your organization please indicate as well by writing N/A.

(2) Not all questions will be relevant to your Organization, please complete the areas of the questionnaire you feel are relevant to you.

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>TICK APPROPRIATE/SPECIFY</th>
<th>WHERE</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Does your company perform any form of e-procurement? If no go to question 5</td>
<td>Yes</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>2  If yes, from the overall organizational perspective, what percentage of procurement</td>
<td>0-25%</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>26-50%</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
activities are undertaken electronically?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>51-75%</td>
<td>5</td>
</tr>
<tr>
<td>76-100%</td>
<td>6</td>
</tr>
</tbody>
</table>

3 Which of the following procurement activities do you perform electronically?

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>TICK</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-informing</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>E-ordering</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>E-sourcing</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>E-catalogue</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>E-market place</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Electronic payment</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>E Auction</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td>TICK</td>
<td>CODE</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Electronic sending of invoices</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>E-mailing</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Other specify</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>4 What benefits did/would your organization achieve from the use of e-procurement?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced lead time</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Reduced administration cost</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Enhanced transparency/accountability</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Reduced processing costs</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Reduced Maverick buying</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Easy access of capable suppliers</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Access to quality raw materials</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Other specify</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>If you answered no to question 1, has your organization ever consider implementing e-procurement strategies?</td>
<td>Yes</td>
</tr>
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<td>---</td>
<td>---</td>
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<tr>
<td></td>
<td></td>
<td>1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>If yes to question 5, has that intention communicated to all staff involved?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>What are challenges that are affecting the successful implementation of e-procurement strategies in your organization?</th>
<th>ACTIVITY</th>
<th>TICK</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor managerial support</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organizations resistance culture</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of IT Infrastructure</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of trained personnel</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of supplier involvement</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information security fears</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal issues</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costs (expensive to install IT)</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8 What do you think are the possible considerate factors (critical success factors) that your organization and government as whole should enforce so as to ensure that e-procurement strategies are implemented in your organization?

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>TICK</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance managerial support</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Identify and authenticate system users</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>System integration with other functions</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Re-engineering the traditional process</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>End user uptake and training</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Consolidate and early involve suppliers</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Other specify……………………………………..</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSION

Please be assured that the information you shall provide be used for Research purposes only and it will be treated with the confidentiality it requires. Completed questionnaires should be submitted to the addressee below:

Madalitso Kanyambo
Malawi Defence Force Headquarters
Directorate of Logistics & Procurement
P/Bag 43
Lilongwe.

You can also send completed questionnaires by e-mail through the following address:m.kanyambo@yahoo.com

Thank you in advance for your participation