RESEARCH TOPIC: The Factors that affect the adoption of electronic procurement (e-procurement) in three government ministries: The Ministry of Local Government and Housing, The Ministry of General Education and The Ministry of Health in their respective district offices: A case in Mansa District, Luapula Province, Zambia.

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This dissertation is submitted in partial fulfillment of the award of Bachelor of Arts in Purchasing and supply.
ABSTRACT

The main aim of this study is to discover the factors affecting the adoption of electronic procurement (e-procurement) in three government ministries of Mansa District, Luapula Province, Zambia.

The said Districts are Local Government and Housing, General Education and the Ministry of Health.

Reviewing the literatures on factors affecting the adoption of e-procurement in the stated Government ministries as the first objective, the researcher discovered a number of key factors among them poor internet connectivity, inadequate computers, some staff have no interest in technology, not having routers and lack of telephones.

The other objective was to find out if the members of staff are participating in the full utilization of e-procurement. This study revealed that the employees are not willing to embrace the new technology.

The third objective was to find out if suppliers are helping the Zambian government to adopt e-procurement. And through questionnaires, it was discovered that suppliers are not helping the government to adopt e-procurement.

The fourth objective was to identify the benefits of e-procurement. Among the identified benefits are there easy to carry out self audit, there is less paper usage, quick procurement process and allows a wider range of suppliers.
DEDICATION

This work is highly dedicated to my family, The Ngosa family for their persevering backing and support in my studies and to all my friends for their inspiration. Your support brought me this far. Lastly but not the least, I thank my relatives and friends because of their support to fulfill social life obligations.
ACKNOWLEDGEMENT
May I thank God for the power and capabilities that led to the successful completion of my task.

Other thanks go to my supervisor for her encouragements and guidance which made this research project a real learning experience resulting in fulfilling a degree requirement.

I also acknowledge my lecturers for their guidance from the initial stages of my program.
DECLARATION
I declare that this work is mine and was done by my efforts and knowledge and cannot be used for academic purposes at any learning institution.

Author's Name: PETER NGOSA

Signature:

Date: 31st JULY, 2019

Supervisor's Name: ELIZABETH MUNENGAMI

Signature: ................................

Date: 31st JULY, 2019
## LIST OF ABBREVIATIONS AND ACRONYMS

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<tr>
<td>B2B</td>
<td>BUSINESS TO BUSINESS</td>
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<td>B2C</td>
<td>BUSINESS TO COMPANY</td>
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<tr>
<td>DG</td>
<td>DANGEROUS GOODS</td>
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<tr>
<td>DFRL</td>
<td>DESIGN FOR REVERSE LOGISTICS</td>
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<td>DFZ</td>
<td>DUTY FREE ZONE</td>
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<td>E-PROCUREMENT</td>
<td>ELECTRONIC PROCUREMENT</td>
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<td>E-GPS</td>
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<td>EDI</td>
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<td>EFT</td>
<td>ELECTRONIC FUNDS TRANSFER</td>
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<td>E-MAIL</td>
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<td>ERP</td>
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<td>ICT</td>
<td>INFORMATION TECHNOLOGY COMMUNICATION</td>
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<tr>
<td>ISO</td>
<td>INTERNATIONAL ORGANIZATION FOR STANDARDIZATION</td>
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<td>OCDS</td>
<td>OPEN CONTRACTING DATA STANDARDS</td>
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<td>FTA</td>
<td>FREE TRADE AGREEMENT</td>
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<td>PIO</td>
<td>PUBLIC INTEGRITY AND OPENNESS</td>
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<td>WM</td>
<td>WAREHOUSE MANAGEMENT</td>
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<td>WTO</td>
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<td>WWW</td>
<td>WORLD WIDE WEB</td>
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<td>ZIPS</td>
<td>ZAMBIA INSTITUTE OF PURCHASING AND SUPPLY</td>
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<td>ZPPA</td>
<td>ZAMBIA PUBLIC PROCUREMENT AUTHORITY</td>
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CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

Procurement can be defined as an act of obtaining or buying goods and services. The process includes preparation and processing of a demand as well as the end receipt and approval of payment. Among others, procurement involves purchase planning, standards determination, specifications development, supplier research and selection, value analysis, financing, price negotiation and making the purchase. The process of procurement is often part of a company’s strategy because the ability to purchase certain materials will determine if operations will continue.

Coming to E-commerce, its simple definition is the purchasing of goods and services on the internet using the World Wide Web (WWW). This involves business to business, government to government, government to business among others.

Because the government of Zambia is a hurry to make sure that the 7th National Development Plan is implemented, it has come up with its own system of procuring goods and services known as electronic government procurement system (e-gp system).

Now it has come to the attention of stakeholders that from the time e-gp system was introduced in the public sector, it has not been fully adopted more especially in rural areas.

Therefore this dissertation is about determining factors affecting its adoption in the three government ministries which are Local Government and Housing, Health and the ministry of Education.

Lambert and Cooper, (2000) also states that procurement is considered as one of the supply chain activities that have a very high impact on organizational performance. Organizations are increasingly adopting its online version to make procurement even more effective.
1.2 BACKGROUND TO THE STUDY

Many Government ministries especially in far flung areas are lagging behind in the implementation of electronic government procurement (e-gp) system. In this regard, I and other researchers have been attracted to study the factors hindering its adoption.

This study tries to discover the factors that affect the adoption of electronic procurement (e-procurement) in three government ministries in Mansa District of Luapula Province, Zambia.

Lian and Laing, (2004) explains that the government procurement system administers money that belongs to all and the procured goods and services are intended to serve the public. The variety and the number of purchased products are generally greater in the government sector. Policy makers have a major bearing on procurement practices adopted in government departments, and the pattern of engagement with service providers.

In addition, Panayiotou (2004) added that the number of suppliers in the governmental purchasing system tends to be very large, and its procurement plan should be unified in all governmental agencies to ease the process.

Zambia has not made much progress in implementing e-governance and in adopting e-procurement in government organizations. Exploring factors that hinders its adoption is therefore very important and encouraging.
1.2 PROBLEM STATEMENT

Ernst and Young, (2001) explains that during the last 10 years, studies have explored the adoption of e-procurement systems in public sectors. However, research relating to the reasons hindering its adoption, especially in developing countries, such as those found in Sub-Saharan Africa, appears severely neglected in procurement literature.

In this regard, my research aims at extending this shortage in literature by examining and assessing the factors hindering the adoption of e-procurement systems in Zambia and Mansa District in particular. As earlier alluded to the study involved three public organizations which are ministry of Local government and housing, ministry of general education and the ministry of health with the view of helping these ministries to attain the 7th National Development Plan’s goal of SMART Zambia covering the period of 2017 to 2021 without leaving any ministry behind.

1.3 The objectives of the study

This study consists of both general and specific objectives

1.3.1 General Objectives of the study

To determine the factors that affects the adoption of e-procurement in three government ministries namely Local Government and Housing, Health and the ministry of Education

1.3.2 Specific objectives

1. To determine the factors affecting the adoption of e-procurement in the three government ministries namely, Ministry of Local government and housing, Ministry of General Education and the Ministry of Health based in Mansa District of Luapula province, Zambia.

Are there some factors affecting e-procurement in the ministries of local government and housing, General Education and Health based in Mansa, Zambia?

2. To find out if e-procurement has been adopted by the said ministries.

Is e-procurement been adopted in the Ministry of Local Government and Housing, Ministry of General Education and the Ministry of Health?

3. To find out if suppliers are helping the Zambia government to adopt e-procurement in the said ministries.

Are the Suppliers helping the government to implement e-procurement?

4. To assess if there are really benefits in the full utilization of e-procurement

Are there really benefits in the full utilization of e-procurement?
1.4 Research questions

This study will try to find out the answers of following questions:

1. Has the institution adopted E-procurement?
2. If No, are there some factors affecting the adoption of e-procurement?
3. And if Yes, are the employees utilizing E-Procurement?
4. Has E-procurement really reduced the cost in the procurement department?
5. Is E-procurement really shortening the procurement process?
6. Are the suppliers helping the government to implement E-procurement?
7. Is the government through ZPPA or SMART Zambia playing its role in the adoption of E-procurement according to the 7th National Development Plan on E-governance?
8. Are there really benefits in the full utilization of E-procurement?

1.5 Significance and justification of the study

This study is very important in the sense that it will benefit and assist in the development and implementing the electronic procurement system leading to the full implementation of e-governance. It will also provide rural areas to have an opportunity to be connected to the internet just as the rural offices are being electrified.

In today’s business, Internet use is one of the most important tools and widely used resource for online business. However, it has been observed that there are many criticisms and dissatisfaction with the system in public institutions because of the low purse at which it’s being adopted in some of the government ministries especially in rural areas and Mansa is not in exclusion. In this regard, the researcher has been compelled to find out the hindering factors affecting its adoption in Mansa, Zambia.

This study may at some point take into account the local business environment and culture to see how important and beneficial e-procurement is for the rural public sectors, in socio-economic perspective of Mansa, Zambia.

The study will also further add to the current knowledge of e-procurement globally, regional as well as national level. Furthermore, this study will add to the existing information about the factors affecting the adoption of electronic procurement in some of the rural public organizations.
1.6 Scope of the study

The study is on identifying the key factors affecting e-procurement adoption in the three government ministries in Zambia and specifically in Mansa County.
CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses the views and assessment of other researchers on factors affecting the adoption of e-procurement in public organizations. The research gap is also presented here and at some point conceptual framework of the research is studied.

2.2 E-Procurement

Rotchanakitumnuai (2013) defines e-procurement as an online system that can streamline the procurement process. In the computerized era, government utilizes the web to convey the advantages and let it be known publicly. Mose, Njiya, and Maggot (2013) refers E-procurement to the use of web based information and communication Technologies (ICTs) to carry individuals or all periods of the securing strategy including look sourcing, negotiation, asking for, receipt and post-purchase review. Strategic journal.com (2016) also explains that E-procurement is defined as the use of Internet based ICTs to carry out individual or all stages of the procurement process. The definition suggests that the use of the Internet can be done at any level of a procurement process and be considered as an e-procurement transaction.

The benefits of e-procurement system are clearly known while its adoption is still a challenge in most of the public institutions all over the World.

As in the case of Mansa, when reviewing the scriptures on factors affecting the adoption of e-procurement, did not find any relevant information concerning this study and has motivated me especially that there is little or no literature coming from this part of Zambia.

2.3 Factors affecting e-procurement adoption in the public sector worldwide

2.3.1 Organizational culture

In view of this Melidi (2013), states that organizational culture all over the World is a leading factor affecting the successful adoption of an e-procurement system in public organizations and identified five major factors preventing the successful adoption of an effective e-procurement system. The first one is Lack of Training facilities and also trainer of trainers. The infrastructures are in dilapidated state in public sectors to accommodate the growing number of people willing to learn. The second is lack of Integration with current systems. Officers are very busy with traditional methods of procuring goods and services and do not want embrace the new technology which benefits like, shortening the procurement process, reduce paper wastage, seeing the specification just in time before an order is made among others. Lack of top management support is also one of the factors affecting the adoption of e-procurement globally. Management do not want to invest in the technology saying its expensive and more especially
when it comes to purchasing of computers and hiring of expertise to assess and fix the internet which every worker can enjoy while working.

2.3.2 Technological Infrastructure

The second factor affecting e-procurement adoption in the world is the technological infrastructure. For this reason, Sing (2011) discloses that in our days, companies are upgrading their IT infrastructure and reforming the processes of their business to make it as digital enterprises. If the internal stakeholders of the organization will not optimize the use of its IT infrastructure, the productivity gain significantly reduced, therefore, it is necessary to find the factors that affect the adoption of e-procurement systems and usage by the employee.

According to ArieSegev (1998) the IT infrastructure is capable to result in important changes in the markets. Though most of the present available off-the-shelf systems were anew, they kept on facilitating the key roles to reduce the overhead of the firms, improve quality of service, more rapid location and reception products, and increased elasticity.

Hence, adopting e-Procurement is highly dependent on Technological Infrastructure.

2.4 Employees Willingness to Adopt e-Procurement System

The third factor affecting e-procurement adoption Worldwide is employee willingness to adopt e-procurement system. In this regard, Walter (1999) states that e-procurement has a variety of factors which must be considered significant by an organization and among others are acceptance of the system by the operators, confidence, utility and risk perception. Others are training, implementation and process consistency, support for the elderly, performance monitoring, feedback and revision and selection practice of e-procurement system. Davis (1993) noted that end-user satisfaction and acceptance is key to success or failure of IT system. The user acceptance of new information system has the effect of a very large and deep public use and the adoption of a successful system. Ghani (1999) suggested that the use of the system is measured and a significant improvement in the indicator of the acceptance of the IT. And Bedell, (2002) states that with the introduction of modern technology in the workplace, the effectiveness of an e-system for procurement depends on its implementation and regularly used by professionals. Such as e-systems of procurement are self-service instrument to which the end-users sometimes show reluctance to use. In addition, Mose (2013) noted that the commitment of senior management, the willingness of employees to use the e-procurement system and the availability of staff to e-procurement success are very important to successful e-procurement system implementation.

Therefore e-procurement adoption also depends highly on employees’ willingness to adopt e-procurement system.
Above are some of the hindering factors effecting the adoption of e-procurement all over the World according to strategic journal .com.

2.4.1 Strategic Value of e-Procurement for Organizations

The fourth factor affecting e-procurement adoption in organizations all over the World is the lack of strategic value of e-procurement for organization. Many organizations have not recognized the full extent of the benefits of strategic performance that allows e-procurement. For this reason, Philips (2008) explains that the winning project for the implementation of e-procurement has become a useful factor in the ability that allows processes to proceed higher, faster, differently, more effectively, in parallel or allows any new processes to implement. Rajkumar (2001) also added that during the last years, e-procurement has been proved to be the main actor in the field of supply chain management. Now the businesses have adopted new digitalized ways to do purchases of goods. Cheng et al. (2004) noted that many business organizations, B2B cases for e-procurement based on the possibility of a number of services and some of them are reducing the prices, lowering transaction costs, good implementation and processing and quick supply. Carr and Pearson (1999) confirmed that the procurement strategy has had a positive impact on the financial performance of the company. Encourage, may establish cooperative relations long-term with its main suppliers make long-term planning and consider purchasing as strategic.

2.4.1 Factors affecting e-procurement at regional perspective

In the African context there are also factors affecting the adoption of e-procurement. For this reason, Mukosa and Mwangangi (2018) found that, the expensive cost of an e-procurement system was deduced to affect its use since it needs enough capital for it to be successfully implemented. In addition they stated that if e-procurement processes are to be successful, the success is dependent on the buyers owning and using the system.

They further explained that the existing legal framework in our region does have an effect on utilization of e-procurement; hence e-Procurement system is not part of the current financial management system that can be useful in easing of online payment for suppliers in Africa. They also said that the system vendors are not very supportive and lack efficient customer care.

With a particular true objective to meet the requests of dynamicity and the more focused nature of the advanced business world, the buying method in organizations has been transformed from a standard administrative nature to a more key business work (Altayyar, 2009). IT has been the essential driver in changing business acquiring practices into a more esteemed included key business work. The two primary reasons why organizations are hoping to actualize IT are on the grounds that it makes the buying procedure more time effective and less expensive.
2.4.2 Factors affecting e-procurement at national level

At national level, the Zambian Public Procurement Authority (ZPPA) has been working to make public procurement more transparent, accountable, and effective.

As part of this work, Learning Insights Zambia (2019) states that the Authority has introduced a new electronic government procurement (e-GP) system developed by European Dynamics. This is one of the first e-GP systems to be developed with the Open Contracting Data Standard (OCDS) from the start. ZPPA has also begun to define how these data should be used for enhanced monitoring and oversight.

In respect of the good part of e-procurement, its challenges are still mushrooming. In view of this, The Insights Zambia (2019) observed that in the Zambian context, a key challenge is the limited volume of data. Thus far, the e-GP system has been rolled out to twenty-three (23) entities. Many Procurement Entities are not using it despite knowing it. Currently, there are only about 300 contracting processes in the system, suggesting it is not yet being widely used by procuring entities in Zambia. Various reasons were given for not using the system, most notably that there is no imperative to use e-GP and there are no sanctions for not using it, there are serious connectivity and hardware issues, and there is still a preference for using the old system due to information sensitivity and ease of use concerns.

The Insight further stated that, while information and reports regarding procurements undertaken in e-GP by the Procuring Entities can be obtained from the portal, this information does not reflect a true view of procurements undertaken by the Procurement Entities, as not all procurements are done through e-GP thus are not reflected in the system, and the procurement plans updated on e-GP are usually not complete.

In addition, The Insights argued that there are other issues with the quality of data, including around identifiers, which may take time and real effort to resolve. It also isn't clear how the OCDS data and open contracting reports relate to the information in the live e-GP system, with discrepancies in the number of tenders across the two data sources.

Finally the Zambian Insight advised that the OCDS was supposed to be initiated and developed by Zambians themselves.

Commenting on the factors affecting the adoption of e-procurement in the public sector, Phiri (2014) states that rise of cyber-attacks, poor internet infrastructure, high cost of internet, and high frequency of internet failure contribute significantly to the successful implementation of e-procurement in the public sector Zambia. In Mansa District alone, there are no literatures on the hindering factors preventing the adoption of e-procurement as at June, 2019, and this has compelled the researcher to find out factors preventing the full implementation of e-procurement in the Ministry of local Government and housing, Ministry of General Education and the Ministry of Health. This will provide information to future researchers.
2.5 Barriers to adopt e-procurement in the public sector

Gupta and Narain (2011) states that barriers affecting the adoption of e-procurement found that the boundaries to e-procurement adoption was because of absence of specialized learning and abilities, absence of capital, absence of specialized devices, and need high talented individuals. So, also individual imperviousness to change and responsibility from top administration is different boundary to e-procurement adoption. Zaed (2012) also states that other factors affecting e-procurement adoption in public sector was due to social-culture barriers, technical barriers, economical barriers, political barriers, and organizational barriers, legal and regulatory barriers. However, they found that online business can possibly incredibly enhance how undertaking works inside and how it serves its clients, in this way, internet business is substantially more a device for enhancing cost quality proportions in organizations’ services. They also found that most organizations adopted basic implication-commerce technologies rather that e-commerce platform to enable online transactions and therefore the findings implied that more efforts are needed to help encourage all organizations to speed up e-commerce adoption.

Vladiimirov (2014) also identified six main factors towards an understanding of e-procurement adoption and utilization. These are technical factors, perceived benefits, conflicts between suppliers and management, imperviousness to change, product diversity and rumors. In a related development, Vladiimirov (2014), identified primary factors impacting the e-business adoption as being environmental pressure, organizational readiness and positive desires will probably improve the e-business selection.

2.5.1 Theoretical framework

The review of literature covers two main areas. First is the presentation of the underpinning theoretical frame work of this study and second is the review of previous studies on the factors influencing e-procurement adoption in public organizations.

The adoption of new idea, process or product has been explained from diverse perspective in the literature. In this study e-procurement adoption refers to the actual use of web based technologies, tools or processes to support the execution of all aspects of procurement activities. In the research literature a number of theories have been engaged in studies on the adoption of new technologies. For example, Rogers (1962) explains these theories as the diffusion of innovation (DOI). In addition, Tomatzky and Fleischer (1990) also gives another theory called technology, organization and environment (TOE) frame work. Furthermore, Tran (2011) mentions three other theories which include Technology acceptance Mode (TAM), theory of reasoned action (TRA) and the unified theory of acceptance and use of technology (UTAUT). Since the focus of the current research is on e-procurement adoption by organizations the DOI and TOE theories are relevant to be used.
Roger (2003) states that DOI theory posits that among other factors the attributes of an innovation influence its diffusion and adoption. Roger identified these attributes to include (1) relative advantage and this is to say that the extent to which innovation is viewed to be better than the existing idea, practice knowledge or tool by the users and that is perceived cost and benefits. (2) Compatibility: This means that the degree to which an innovation is consistent with the existing practice, experience, norms, needs and value system of the potential adopters. (3) Complexity: This is the degree at which the innovation is perceived to be difficult to understand and use. (4) Trial ability: This is the degree to which an innovation can be experimented with on a limited basis (5) Observability: This is the degree to which the results of adoption of innovation are visible to others.

On the other hand Fleischer (1990) states that TOE model contends that technological, organizational and environmental factors largely influence innovation adoption of e-procurement.

Oliveira and Martins (2011) explained that technological factors are concerned with the existing and emerging technologies and may include current practices, equipment and technologies within and outside the organization. Azadehgan and Teish (2010) states that the organizational factors are mainly management structure, organizational size, scope of activities, while the environmental factors are the influence of industry characteristics, competitors, government and other institutions that have influence on the adopting unit.

Also theoretical frame work, on advantages of e-procurement adoption in public sector ,Rankin (2006) found that the decision to adopt e-procurement in public sector was influenced by the perceived benefits of e-procurement in gaining access to a larger market and increased opportunities, reduction in paper work, increased productivity and reduction in the procurement cycle time and transaction cost. Toe (2009) also found that firm size, top management support, perceived indirect benefits, and business partners influenced the adoption of e-procurement in public sector globally. These shows that the perceived benefit in time and cost savings increased quality, visibility in the supply chain efficiency and effective communication associated with e-procurement. Other factors identified in the study were improved inventory management, elimination of errors and convenience of achieving of completed work.

Coming to the factors affecting e-procurement adoption in public sector ,Gupta and Narain (2011) states that the boundaries to e-procurement adoption was because of absence of specialized learning and abilities, absence of capital ,absence of specialized devices and need high talented individuals. So, also individual imperviousness to change and responsibility from top administration is different boundary to e-procurement adoption .Zaed (2012) also states that other factors affecting e-procurement adoption in public sector was due to social culture barriers, technical barriers , economical barriers, political barriers, organizational barriers, legal and regulatory barriers.
2.5.2 Conceptual Framework

This part of research provides a conceptual frame work explaining main factors and assumed relationship between them in order to give better understanding of the research. In addition, this study was developed based on the findings of literature review. The framework according to the figure below proposes that the factors that influence the decision organizations to use e-procurement are the attributes of e-procurement technologies, organizational factors, environmental factors and the influence of other industries.

In this regard, the key assumption is that the decision to use e-procurement by organizations is a product of the attributes of e-procurement technologies, organizational and environmental factors as well as the influence of other industries which are described as early adopters of e-procurement. The study conceptualizes as follows.

**Figure 1 below showing conceptual framework**

The figure shows Technology Organization and Environmental Framework.

Source Tornatzky and Fleischer (1990)

The theoretical framework was used to evaluate the factors affecting the adoption of e-Procurement in the three public sector perspective of Mansa, Zambia to a reasonable level of confidence, because it was also one of the outcomes of study.
The study’s theoretical framework was made after a thorough examination of the available secondary data on the factors affecting the adoption of e-Procurement in public sector perspective.

### 2.6 Organizational Factors in respect of conceptual framework

Wen and Chen (2010) states that the empirical results supporting the impact of organizational qualities, recommend that factors affecting e-procurement adoption are employees' knowledge to e-procurement and the size of the enterprise.

Huy (2012), in a study on the importance of organizational factors as components of adoption additionally found that representatives' information on web-based business, the size of the venture and demeanors towards advancement were sure and measurably noteworthy. Oliveira & Martins (2010) found that lack of knowledge was the main barrier to the use of e-procurement and ICT among public organizations. Wen and Chen (2010) again confirm that it’s not enough for managers to have adequate education levels for them to adopt e-commerce, but they must also have relevant knowledge in ICT use.

Manuel and Duarte (2015) found that organization size which is an indicator of the level of operational resources of the company is positively and significantly related to e-procurement adoption. This is in line with the earlier studies by, for example Vilaseca-Requena et al. (2007) on ICT skills and experience by employees. Gupta and Narain (2011) also states that the higher the level of ICT skills the higher the likelihood that a firm will adopt e-commerce, and previously IT experience has been seen to be critical element impacting the achievement of e-procurement adoption.

### 2.6.1 Environmental Factors in respect of conceptual framework

Huy (2012) found a positive correlation between e-commerce adoption and manager's view on the intensity of completion, backing of industry pressure, supplier and buyer behavior and sector of business operations. These findings confirm to those of prior studies by Al-Qirim (2007). It has been argued that the industry in which a firm operates influences the adoption of information systems including e-commerce innovations. Service industries, retail industries and the manufacturing industry were the key sectors that demonstrated a significant relationship with innovation adoption.

Valseca Requena et al (2007) states that there is positive and important relationship between competitive pressure and the adoption of e-commerce. The plausible argument for this observation is that if the innovation directly affects the competition then the adopter will have the incentive to take up the technology and the bigger the competitive force the more possible those public organizations will adopt e-commerce or e-procurement. Porter (2008) also suggested that the adoption of IT will change the competitive environment through changing the
structure of the industry, changing the rules of competition and giving businesses new methods by which to gain competitive advantage over the competition.

2.6.2 Technological Factors in respect of conceptual framework

Adopting a technology is not a subject is not what is accessible in the market, but on how the new technologies counterpart with those that a firm as of now has. The key factors charactering such technologies include attributes such as relative advantage that is perceived innovation benefits, compatibility, that is both technical and organizational and complexity being the easy to use or learning e-procurement.

For relative advantage John et al (2006) found that the extent of perception of the characteristics of the technology has measured by time saving and effort. Too and Ngai (2007) also states that economic profitability, cost reduction and production increase has a significant influence on e-procurement adoption. In contrast Huy (2012) found that perceived relative advantage does not appear to play vital role in influencing the adoption of e-procurement in some public organizations. Compatibility has been observed to be a significant factor affects the adoption of e-procurement since it manages perception of the significant of the innovation in performing different assignments in the shortest possible time and in future. For example if e-procurement is is perfect with customary method of performing different exercises of business ventures with the current attitude and qualities of the experts, and with various correspondence parts including everyday operations and their future improvement the a higher rate of appropriation will happen. Al-Qurim (2007) also found that compatibility with a firm’s culture and values was a significantly factor affect e-procurement adoption a result that is also line with studies by To and Ngai(2007) The implication of this observation is that some sectors considers compatibility of development as a critical pre-requisite for innovation adoption. Ratten and Raten (2007) found an important relationship between perceptibility and the observability of e-procurement inferring that the different helpful operations of e-procurement may impact the choice of players to embrace the innovation. The discoveries of this repudiate those by past scientists for instance, Ngai (2007), that recognizability has no effect on the reception of e-procurement

2.7.1 COMPARATIVE STUDY

This study makes comparisons of the perceived benefits of e-procurement adoption in construction from previous studies around the world.

In the construction sector, a number of studies have attempted to explore the perceived benefits in adopting e-procurement Worldwide. For example, Rankin et al (2006) found that the decision to adopt e-procurement by 226 organizations in the Canadian Industry was gaining access to a larger market and increased opportunities, reduction in paper work, increased productivity and reduction in the procurement cycle time and transaction cost. This is compared to for example Teo et al (2009) who found that firm size, top management support, perceived indirect benefits, and business partners are all among the benefits of the adoption of e-procurement in 141
construction firms in Singapore. In the UK, Eadie et al (2011) observed that in public and private sector organizations there was a correlation between the size, procurement spending, and sector an organization belonged to and e-procurement use. The authors found that the perceived benefits in time and cost savings increased quality, visibility in the supply chain, efficiency and effective communication associated with e-procurement were the key factors benefits e-procurement use.

Elsewhere in Malaysia, Daud et al (2013) revealed that the key factors benefits e-procurement adoption in 78 construction companies were the perceived usefulness of e-procurement technologies in handling procurement work and the complexity of e-procurement technologies. Similarly, Tran and Huang (2014) noted that the adoption of e-procurement in developing countries was characterized by technological, organizational, environmental and managerial factors. Iben and Larya (2015) also found that the speed of transactions, lower transaction costs and ease of use of the technologies had the highest positive impact on e-procurement use in south African construction industry.

In the related development, The World Bank Group (2019) gives an example in Zambia where the Public Integrity and Openness department of the World Bank and Open contracting team are working together to ensure that technical specification for the e-procurement system will enable the publication of open data in accordance with open contracting data standard. A similar approach will be followed for e-procurement system in other countries throughout the region.

### 2.7.2 RESEARCH GAPS


Considering these studies conducted by various researchers, there is no specifically study on factors affecting the adoption of e-procurement in any public sector (s) in Zambia and Mansa district in particular and this has compelled me to bridge the gap so as to have literature on this matter from this part of Zambia as well. As a result of this literature, these challenges affecting e-procurement adoption in rural areas of Zambia could be a talk of the past.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter states various stages that were followed in completing the study where by the researcher identified the research design, target population, sample design, data collecting instruments, data collecting procedures, data analysis, presentation and interpretation techniques.

3.2 Research approach.

Qualitative in nature

Denzin NK (2000) explains Qualitative research as a type of scientific research characterized of the following investigations

1. Seeks answers to a question 2. Systematic uses a predefined set of procedures to answer the questions 3. Collects evidence 4. Produces findings that were not determined in advance 5. Produces findings that were applicable beyond the immediate boundaries of the study

The researcher used qualitative method with open-ended and closed-ended questions where the participants were free to respond in their own words simply marking yes or no or not sure where appropriate.

3.3 Research design

Kothari (2009) describe research design as the plan of conditions for gathering and examination of information in a way that it intends to join pertinence to the exploration reason with economy in procedure

3.4 Population of the study

The number of inhabitants in this study involves public sector within Mansa County. Ongula (2005) refers population as a group in any institution, people or objects that have common characteristics. It is a whole gathering of people or components that have common characteristics. The target group in this study would be mainly procurement officers and at some point accountants and transport managers.

3.5 Sampling frame

The researcher intended to approach 100 respondents from 3 government ministries

3.6 Sample size and Sampling techniques

From government institutions in Mansa District, the study targeted three ministries, namely ministry of health, ministry of general education and the ministry of local government and
housing. The sample size was 15 respondents in total. From each ministry, 5 respondents were interviewed showing 15% of the target population.

Table 2 below showing sample size

<table>
<thead>
<tr>
<th>Institution</th>
<th>Number of participants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of health</td>
<td>2 respondents from District Health Office</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>3 respondents from Provincial Health Office</td>
<td></td>
</tr>
<tr>
<td>Ministry of general education</td>
<td>2 respondents from District Education Board</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>3 respondents from Provincial Education Board</td>
<td></td>
</tr>
<tr>
<td>Ministry of local government</td>
<td>3 respondents from procurement department</td>
<td>5</td>
</tr>
<tr>
<td>and housing</td>
<td>2 respondents from transport officers</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

3.7 Data collection techniques

Both Secondary Data and Primary Data were used for this study. The Data was collected using questionnaires. Orodho (2004) explains questionnaire has a carefully designed instrument for collecting data in accordance with specification of research questions. The questionnaires are proffered due to their suitability for this type of study. Mugenda and Mugenda (1999) observed that questionnaires are commonly used to obtain certain information about the population.

The questionnaire used contains both closed and open-ended questions. The closed-ended questions provided data that is easy to compute and analyze while the open-ended questions permit a greater depth of response, thus adding quality to the data collected.

3.8 Secondary data

The secondary data was collected through published reports and other past research papers and peer review on the topic of the study.

3.9 Primary data

The Primary data was collected from the selected government ministries using questionnaires with both closed and open-ended questions as earlier alluded to. The respondents filled in the questionnaires without guidance from the researcher. Hand delivery method was used to administer the questionnaires to the sampled respondents, all who are conveniently located at the various government ministries.
3.10 Data collection process

Prior to the commencement of data collection, the researcher obtained all the necessary documents including a letter of introduction from Cavendish University Zambia. Upon getting clearance, the researcher in person would distribute the questionnaires to the sampled individuals who are the procurement officers, transport managers and accountants from various selected government ministries. The use of questionnaires is expected to ease the process of data collection for all the selected respondents would be reached in time. The researcher distributed the questionnaires and asks when they could be ready for collection.

3.11 Ethical considerations

Individual consent is in the basis for one to participate in the study. No respondent was coerced into giving information. Respondents were assured that information will be treated with confidentiality in case there was need for that. Data collected was used specific for this research alone and would not be revealed to any other party with need to carry out a similar study. No incentives were given to the respondents for them to participate in the study and for the sake of mutual trust, introduction cover letters accompanied questionnaires for the purpose of identification of the researcher and explain purpose of the study being carried out.

3.12 Pilot Testing

The researcher did not conduct pilot testing due to the fact that the sample size targeted was mainly professionals and no random sampling.

3.13 Data analysis Process

Orodho (2004) defines data analysis as a process of systematical searching and arranging interview transcripts, field notes, data and other materials obtained from the field with the aim of increasing understanding of them making it possible to present it to others. In addition, Mugenda (1999) explains data analysis as the process of bringing order, structures and meaning to the mass of information collected. Data analysis is the process that helps to arrange the collected data in the way that can be interpreted. Once questionnaires are received, the next process is to verify the data. The data was coded, tabulated, classified and finally subjected to both quantitative and qualitative analysis.
CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents, interprets and analyzes data from the research findings which is commonly known as primary data. The data used was obtained from the questionnaires distributed to procurement officers, transport officer and accountants of the 3 sampled Government ministries being the Ministry of Local government and Housing, Ministry of Health and the Ministry of Education at District level in Mansa. In the study, the data was analyzed by employing descriptive statistics such as percentages, frequencies and tables. Aggregation of percentages was used in data presentation. The information was presented and discussed as per the objectives and research questions of the study. The questionnaires sent out were not returned 100% response rate, but 15%. The low response rate could be attributed to the busy schedules of the respondents.

Consider the table on the next page.
Table 2 below shows responses to Questionnaires from the theme: Determining factors affecting the adoption of e-procurement in selected government ministries in Mansa district of Luapula province, Zambia.

<table>
<thead>
<tr>
<th>No.</th>
<th>Questionnaire</th>
<th>Frequency</th>
<th>YES</th>
<th>NO</th>
<th>NOT SURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Has the institution adopted e-procurement?</td>
<td>Frequency</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage</td>
<td>33.3</td>
<td>33.3</td>
<td>33.3</td>
</tr>
<tr>
<td>2</td>
<td>If 'NO' are there some factors affecting e-procurement?</td>
<td>Frequency</td>
<td>15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>If 'Yes' are employees utilizing e-procurement?</td>
<td>Frequency</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage</td>
<td>33.3</td>
<td>33.3</td>
<td>33.3</td>
</tr>
<tr>
<td>4</td>
<td>Has e-procurement really reduced the cost in the procurement department?</td>
<td>Frequency</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage</td>
<td>33</td>
<td>-</td>
<td>67</td>
</tr>
<tr>
<td>5</td>
<td>Is e-procurement shortening the procurement process?</td>
<td>Frequency</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage</td>
<td>33</td>
<td>-</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Frequency</td>
<td>0</td>
<td>5</td>
<td>10</td>
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<td>--------------------------------------------------------------------------</td>
<td>-----------</td>
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<td>----</td>
</tr>
<tr>
<td>6</td>
<td>Are the suppliers helping government to implement e-procurement?</td>
<td>Percentage %</td>
<td>-</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>7</td>
<td>Is the government through ZPPA or SMART-Zambia playing its role in the adoption of e-procurement according to the 7th National Development Plan on e-governance?</td>
<td>Frequency</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage %</td>
<td>33</td>
<td>0</td>
<td>67</td>
</tr>
<tr>
<td>8</td>
<td>Are there benefits in the full utilization of e-procurement?</td>
<td>Frequency</td>
<td>10</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage %</td>
<td>67</td>
<td>-</td>
<td>33</td>
</tr>
</tbody>
</table>
4.2 Summary of findings according to percentages

1. To know if the institutions have adopted e-procurement

In the three institutions only 5 out of 15 respondents agreed to the adoption of e-procurement and scored 33.3%. From the two ministries 5 respondents indicated not adopted and the other 5 were not sure and the score line was 33.3% each. The aggregation of the percentages would be 99.9%

2. Determining factors affecting the adoption of e-procurement according to question 1: The responses depict that 100% of respondents hold the view that indeed there are factors affecting the successful adoption of e-procurement in the public sector and the reasons are given as the questionnaires unfolds.

3. Concerning the utilization of e-procurement according to question 1: The responses indicates that 33% is utilizing e-procurement, 33% not utilizing and another 33% not sure if indeed e-procurement is in utilization

4. Concerning the reduction in the costs in the procurement department: Only 5 respondents indicate that e-procurement has not reduced the cost in the procurement department while 10 respondents were not sure and depicts 67%

5. Concerning e-procurement shortening the procurement Process: Only 5 respondents indicates fully that indeed e-procurement has shortened the procurement process and scored 33% while 10 respondents were really not sure if e-procurement has shortened the procurement process and scored 67%

6. Concerning the suppliers helping the Zambian government to implement e-procurement: No respondent agreed that suppliers are helping government to implement e-procurement and the score line was 0%

7. Concerning the government through ZPPA or SMART Zambia playing its role in the adoption of e-procurement according to the 7th National Development Plan on e-governance: Only 5 respondents agreed to the government intervention in e-procurement adoption and scored 33% while 10 respondents were not sure hence depicts 67%

8. Concerning benefits in the full utilization of e-procurement: 10 of the 15 respondents testified that indeed there are benefits in the full utilization of e-procurement and scored 67% while 5 respondents were not sure and scored 33%
<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Factors Affecting E-procurement Adoption</td>
<td>Poor internet connectivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inadequate computers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some members of staff have no interest in the technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not having routers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No interment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No telephones</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unavailability of computers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of knowledge on e-procurement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delays in implementing new technology in government departments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No punishment is given to those individuals not playing their roles</td>
</tr>
<tr>
<td>8</td>
<td>Benefits of E-procurement</td>
<td>There is transparency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There is value for money</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Less paper usage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Easy to carry out self-audit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The process is cheaper and faster</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Just-In-Time procurement process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It allows a wider range of stakeholders to participate in the process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Risks of handling cash liquids are reduced</td>
</tr>
</tbody>
</table>
4.3 General Remarks of the respondents from the whole questionnaire

One respondent states that as part of the agenda, Zambia requires to embrace e-procurement as part of e-platform to enhance good governance

Another respondent states that electronic procurement is a good initiative which has been a practice in developed countries. It will positively benefit Zambia if embraced and supported by all concerned stakeholders.

The other respondent also explains that e-procurement has taken much time to be implemented due to the fact that the initiators do not give time frame to the implementers.

The fifth respondent added that it will take a lot of time and money for e-procurement to be implemented country wide because of poor road networks, poor internet connectivity, lack of knowhow by older office bearers among others.

The sixth respondent also said that e-procurement is an exciting experience especially that it does not entertain red tape between buyers and sellers.

Consider the table on the next page showing average percentages in terms of responses from respondents.
Table 4 below shows the average responses in percentages to Questionnaires from the theme: factors affecting the adoption of e-procurement in selected government ministries in Mansa district of Luapula province, Zambia.

<table>
<thead>
<tr>
<th>No</th>
<th>Questionnaires</th>
<th>Percentage</th>
<th>YES</th>
<th>NO</th>
<th>NOT SURE</th>
<th>Total %</th>
<th>Valued responses %</th>
<th>Average %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Has the institution adopted e-procurement?</td>
<td>33.3</td>
<td>33.3</td>
<td>33.3</td>
<td></td>
<td>99.9</td>
<td>99.9</td>
<td>33.3</td>
</tr>
<tr>
<td>2</td>
<td>If NO is there some factors affecting e-procurement adoption?</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>If are employees utilizing e-procurement?</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td></td>
<td>99.9</td>
<td>99.9</td>
<td>33.3</td>
</tr>
<tr>
<td>4</td>
<td>Has e-procurement really reduced the cost in the procurement department?</td>
<td>-</td>
<td>33</td>
<td>67</td>
<td></td>
<td>100</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Percentage</td>
<td>33</td>
<td>67</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>5</td>
<td>Is e-procurement shortening the procurement process?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Are the suppliers helping government to implement e-procurement?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Is the government through ZPPA or SMART-Zambia playing its role in the adoption of e-procurement according to the 7th National Development Plan on e-governance?</td>
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<td>8</td>
<td>Are there benefits in the full utilization of e-procurement?</td>
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</tbody>
</table>
4.4 Summary of findings according to average percentage

Researcher draws the average percentage, being a summary of the ranking of the findings and arranged as follows:

1. Has the institution adopted e-procurement?
   The average percentage is **33.3%**

2. Are there some factors that affect the adoption of e-procurement in the selected three government ministries in Mansa?
   The average percentage is **100%**

3. Are employees utilizing e-procurement?
   The average response is **33.3%**

4. Has e-procurement really reduced the cost in the procurement department?
   The average percentage is **50%**

5. Is e-procurement shortening the procurement process?
   The findings indicate **50%** as an average percentage

6. Are the suppliers helping government to implement e-procurement?
   The average percentage of the total respondents depicts **50%**

7. Is the government through ZPPA or SMART -Zambia playing its role in the adoption of e-procurement according to the 7th National Development Plan on e-governance?
   The findings indicate that the average response in percentages is **50%**

8. Are there benefits in the full utilization of e-procurement?
   The average response indicated **50%**
CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Introduction

This chapter will endeavor in discussing the findings in line with the research questions and objectives. Therefore, the study findings offer a significant insight into determining factors that affect the adoption of electronic procurement in three selected government ministries in Mansa district of Luapula province, Zambia.

5.2 Findings of the study

The findings of the study do indicate that of the three selected government ministries:

1. Only 33.3% is implementing electronic procurement, 33.3% are not implementing while another 33.3% were not sure. This is a sad development in the sense that only 33% in these ministries has an opportunity to implement or has an idea of e-procurement implementation. The other 67% has no idea on the issue of e-procurement implementation and this is a danger to a growing District like Mansa and being a provincial capital, there is a lot to do to be compared to Chipata in the eastern part of Zambia.

2. 100% agree that indeed there are factors affecting the adoption of e-procurement. The revelation gives an idea that something must be done for e-procurement to be adopted in these government departments in Mansa District.

3. Only 33.3% of the employees are utilizing e-procurement and 33% were not sure. This shows that only 1 ministry out of 3 is utilizing e-procurement in Mansa District and according to the research, the district is not in line with the 7thNDP.

4. Only 33% indicated positive in terms of cost reduction by utilizing e-procurement and 67% were not sure. The finding here again is totally showing that the these ministries don’t know anything about e-procurement and the researcher challenges the initiators that they consider this and take appropriate measures.

5. Only 33% accepts that for sure e-procurement has shortened the procurement process and 67% not sure. All these revelations are still pointing to the fact that officers in Mansa especially in these 3 ministry little do they know about e-procurement.

6. It is confirmed that the suppliers are not helping the government with e-procurement adoption. No respondent indicated that suppliers are helping the government of Zambia to implement e-procurement. Stakeholders’ meetings should be encouraged and untie bottlenecks to this problem.

7. Only 33% recognizes government’s interventions in the e-procurement adoption and 67% not sure. The findings show that a lot of officers are not conversant with systems like e-GP and e-governance including other government electronic platforms.

8. In practice 33% accepts that there are benefits in the full utilization of e-procurement and the other 33% accepted also, but on theoretical point of view and the other 33% not sure.
Again it’s a sad development for these ministries where officers can only hear about e-procurement, but cannot put into practice or demonstrate. Time has now come to adopt the electronic way of procuring goods and services.

5.3 The effective implementation of e-procurement

The research found that for e-procurement to be implemented effectively in these government ministries the following factors should be considered.

1. Good interment connectivity (2). Adequate computers (3). Members of staff must have interest in the technology (4). Government and interested stakeholders to provide routers for them (5). The ministries to be provided with telephones (6). Management to be arranging trainings to impact its members of staff with knowledge on e-procurement and e-governance at large (7). Government departments should avoid delays in implementing new technology (8) Management to embrace the new technology and always not to view it as just like any other expense, but rather to view it as an investment.

5.4 The benefits of e-procurement

The findings of the study further indicate that the following are the benefits of adopting e-procurement once fully utilized.

**Reduced Transaction Time:** Individual business activities can be completed much more quickly. They are not restricted by office hours and may not even need human intervention, thus increasing the capacity to complete transactions on real-time basis.

**Electronic Catalogues:** the development of catalogues has enabled organizations to market their product offer electronically, this has been a fantastic marketing tool for sellers and for buyers. There is price transparency and buyers can compare price from various e-catalogue vendors.

**Increased Standardization:** With the electronic catalogues mentioned, there has been a move by some suppliers to offer a more standardized offer, thus allowing buyers to easily compare the offers from e-catalogues; however care must be exercised in these comparisons as it is difficult to assess the quality of products without samples.

**Wider Supplier Bases:** Because the virtual e-procurement portals are web-based, buyers can search suppliers worldwide, meaning a wider selection of products and services are available to the organization meaning that when items are not available locally it is still possible to source them. It is always important to remember the time and cost of shipping goods.
**Simplified Global Procurement:** With the e-procurement applications supporting various languages, currencies, international taxation and financing, shipping regulations and more, it is simple for buyers and suppliers in different countries worldwide to communicate and co-operate.

5.5 Challenges in e-procurement adoption

The study revealed that challenges preventing the full adoption of e-procurement in the three selected government ministries in Mansa are:

1. **Poor internet connectivity:** This is as result of restricted access to government ministries with internet connectivity.

2. **Some members of staff have no interest in the technology:** Some members of staff do not need to change as they are satisfied with what they always do.

3. **Unavailability of computers:** This is as a result of the difficulties government face to mobilize funds for full scale implementation.

4. **Delays in implementing new technology in government departments:** It is well-known factor that there is rampant costs in training of procurement and other related officers or managers in the use of software by the government, hence individuals are taking it by themselves.

5. **ICT infrastructures:** Though there is e-GP system going on using Zambia Public Procurement Authority (ZPPA) portal, there is still poor-grade procurement of IT equipment.

5.6 Barriers in e-procurement adoption

The research also found that the greatest challenges to adopting and implementing e-procurement include issues in change management, a lack of time permitted to learn the new system in government departments, perceived loss of control and technology being seen as expense rather than an investment.

Other barriers include financial resources and technology adoption: though much progress has been made with the coming of SMART Zambia, significant challenges to successful e-procurement implementation remain. Among the factors as being critical to implementation of an effective e-procurement process was user adoption of the technology and budget and policy support. According to the findings, the high cost of technology and lack of technical expertise are indeed barriers to adoption of e-procurement.
CHAPTER SIX: CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

Conclusions:

In conclusion, the researcher came up with two important issues to answer the objectives of this study concerning factors affecting the adoption of e-procurement in the three selected government ministries: A case in Mansa District of Luapula province, Zambia. These ministries are Ministry of Health (MOH), Ministry of Education (MOE, DEBS) and the Ministry of Local Government and Housing (MOLGH)

The first one is factors affecting the adoption of e-procurement seconded by suppliers not helping government to adopt e-procurement in the three selected government ministries already named above.

1. Factors affecting the adoption of e-procurement

The findings depict some strongest factors affecting the adoption of e-procurement in the selected government ministries in Mansa and among others are poor interment connectivity, inadequate computers, Some members of staff have no interest in the technology, lack of routers, lack of telephones, unavailability of computers and lack of knowledge on e-procurement among employees.

The study gives the researcher an opportunity to confirm the following null hypotheses:

Null Hypothesis 1: There are really factors affecting the adoption of e-procurement in far flung areas and Mansa District in particular. This is evidenced by 100% in agreement that indeed there are factors affecting the adoption of e-procurement. The revelation gives an idea that something must be done for e-procurement to be adopted in these government departments in Mansa District.

Null Hypothesis 2: E-Procurement has shortened the procurement process. This is evidenced by 33% of the respondents who agreed and 67% of them who were not sure, making the average response rate of 50% of the total respondents.

Null Hypothesis 3: There are benefits in the full utilization of e-procurement. This is evidenced by depicting 67% of those who accepted that there are benefits in the full utilization of e-procurement and the other 33% of them not sure giving an average response of 50%.

2. Suppliers not helping government to adopt e-procurement

The findings revealed that challenges suppliers encounter which prevent them from helping government adopt e-procurement among others include high cost of technology, lack of technical expertise, suppliers not willing to leave their traditional way of working as they are
used to fraud and corruption dealings and there is lack of emphasis from the initiator, being the government.

Other findings, in respect to Aberdeen Group, (2002) states that effectiveness of the e-procurement system is dependent on availability of financial resources in order to meet such technological costs such as software and hardware. The Group continues to state that the other costs include the payments for the various services offered by suppliers and maintenance of the same. Indeed technology keeps on changing and those implementing e-procurement have to continuously undergo relevant training in order to keep up with the pace, said the group. In addition, there is need for conformity between the technologies of the user and supplier organizations.

**Recommendations**

➢ Based on findings of the study, it is expected that the stakeholders, who include procurement officers from both public and private organizations will gain a better understanding of the factors affecting the adoption of e-procurement system and their effects to service delivery.

➢ As the results of the study revealed, public sector should invest much in employee education standards by employing people with enough ICT skills.

➢ It was also found that public sector is understaffed due to the fact that the researcher had challenges to meet some procurement officers at various offices especially when they operate from the field. Because of this, they must employ more staff to assist in operational activities in Mansa district and the nation at large.

➢ For organizational barriers, the procurement officers in the public sector should introduce business relationship with suppliers providing E-procurement initiatives and come up with strategies to terminate some perceptions on the use of internet.

➢ The public sector should also improve on security threats and confidentiality of information and install a widely accepted E-procurement software solution.

➢ Additionally, the government has a strong role in promoting and bringing awareness on the benefits of adopting E-procurement in public sector.

➢ Through the established guideline, the District Government can help in addressing the challenges affecting both supplier and the selected ministries.

➢ Further addition, Aberdeen Group (2002) states that most of the potential legal issues namely liability risks, contract enforceability, security and global trading, arising from e-procurement are not new, rather, these challenges are magnified when compared to performing these tasks via the traditional modes. However with proper training and strategic use of the technology, e-procedures can maintain higher security than conventional ones. It requires the users to overcome their human psychological barriers of staying in their comfort zone, and change their existing work practices.
Implications of the study

Many organizations are adopting e-procurement due to its ability to streamline the supply chain network. E-procurement eliminates all unnecessary cost in the supply chain and helps the organization to save resources.

For this reason, International Journal of Computers (2017) states that E-procurement system makes it possible for organizations to measure and monitor orders and their details such as: processing time, the time an order was sent, and current status. Cost saving, improved efficiency and control, are the three catalysts driving growth in the e-procurement area. The journal added that it is also believed that there is more benefit to be gained by using e-commerce for sourcing, rather than for transaction management. The journal further added that it is possible to reduce buying and service costs through product standardization. It also said that the single point of data entry into the system is an important benefit of e-procurement to organizations that adopt such systems. Efficiency is also increased because once the system is implemented there is no need to employ new people, even though the department has to process more orders.
BIBLIOGRAPHY


APPENDIX A: GUIDELINES ON THE USE OF E-PROCUREMENT IN THE PUBLIC SECTOR.

1. Introduction

E-procurement benefits have been known for years. Among others are improved management and sourcing information, better compliance and user fulfilment. In many private organizations, E-procurement has been adopted while several public organizations are still at the planning phase. Many ideas have been composed about E-procurement systems and little has been said in regards to best practice to alleviate obstructions to E-procurement adoption especially in public organizations. This guideline brings together the experiences of many leading organizations to give best practices to everyone of us to take after. This guideline will help organizations and individuals choose the most reasonable suite of E-instruments to address issues of businesses.

Private sector play a vital role in supporting national financial advancements that can be observed in a number of aspects including labor absorption and distribution, poverty alleviation, training and redesigning enterprise abilities.

2. Objectives

a) To improve service levels to buyers and sellers involved in both public and private sectors

While it is a recognized factor that cost efficiency is a key target of the E-procurement activity, cost is a single measurement against which procurement execution ought to be measured. It is expected that the coming of E-procurement and the related procurement processes together with relevant changes will be added to enhance service levels for all parties, purchasers, dealers and clients.

b) To develop a more integrated approach to procurement among entities

The organizational structures encourage co-operation among procurement entities to go for E-procurement adoption.

c) To be dynamic in the appropriation of obtaining related information and communication Technologies (ICT)

It is important that public centers be in the forefront in the utilization of ICT to embrace present day acquisition innovation further to guarantee the general aggressiveness through reduction in expenses for executing business among organizations.

d) To advance utilization of E-procurement in more extensive economy
It is essential that E-procurement adds to the general aggressiveness affecting the level of E-procurement adoption in the Zambian economy context.

3. Target Audience

This guideline is for both private and public organizations, procurement officers, individuals and entrepreneurs to embrace E-procurement.

4. Uses of E-procurement in the Public sector

E-auctioning-tendering, Vendor management, catalogue management, order status, E-informing, purchase order integration, contract management and E-invoicing.

5. Barriers to E-procurement adoption in the public sector

<table>
<thead>
<tr>
<th>BARRIERS</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>Technology</td>
<td>Absence of support from system developer &amp; sellers hinders E-procurement systems to be adopted</td>
</tr>
<tr>
<td>Infrastructure &amp; Legislation</td>
<td>Inadequacies in government policies and legislation can influence take-up of ICT systems</td>
</tr>
<tr>
<td>Environment</td>
<td>There are conditions where organizations decide not to make use of E-procurement systems to maintain relationships.</td>
</tr>
<tr>
<td>Resource Constraints</td>
<td>The cost to implement E-procurement appears to be a risk among private and public entities and more especially where management has no specialized ability on E-procurement systems.</td>
</tr>
<tr>
<td>Organizational Management &amp; characteristics</td>
<td>Business type, firm size and poor working culture also influences E-systems adoption among players.</td>
</tr>
<tr>
<td>Client/Supplier Readiness</td>
<td>Some trading partners are not willing to adopt the E-Systems</td>
</tr>
<tr>
<td>Finances</td>
<td>Insufficient financial support especially in rural districts by government hinders E-Systems implementation.</td>
</tr>
</tbody>
</table>

Other barriers

➢ Change management issues
➢ Security issues
➢ Not in the priority of organization
➢ Lack of planning
➢ Lack of awareness and understanding of E-procurement and its benefits from a strategic and organizational perspective.
Expected Benefits of using E-procurement in the Public Organizations

<table>
<thead>
<tr>
<th>BENEFIT</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>Control</td>
<td>There is real time reporting by systems allowing mismanagement to balance the expenditure with budget quickly. There is also fast response to problems</td>
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<tr>
<td>Transparency</td>
<td>Transparency of agreement details. For example, conditions of contracts, time &amp; terms of requests making it a must to relevant parties inside and remotely.</td>
</tr>
<tr>
<td>Decentralization</td>
<td>Centralized tracking will enable transaction and full reporting on requisitions, items brought payments made &amp; order processes</td>
</tr>
<tr>
<td>Cost Savings</td>
<td>It allows savings on order cost, managerial costs and lead time order cost</td>
</tr>
<tr>
<td>Time Savings</td>
<td>Time spent in procurement process is saved, making short of the procurement circle.</td>
</tr>
<tr>
<td>Productivity</td>
<td>Online requisition system has made internal clients acquire items needed from a list of affirmed things.</td>
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</table>

Other Benefits

- Free access to suppliers and contractors
- Greater accountability
- Market data is collected automatically
- There is improvement in management auditing, reporting and monitoring

6. Applicable Laws

- IT security policy
- E-payments/receipts policy
- Application usage
- Electronic contract development
- Business continuity planning
- Mobile technology options
- User roles and responsibilities

7. Funding Sources

- From savings
- Funding should be allocated annually to Districts to support E-procurement adoption in government departments

8. Role of District Governments

- To ensure accountability and transparency among stakeholders in formulation of policies
- To ensure that procurement acts, rules and regulations are followed
➢ To strengthen governance, efficiency and economic development

9. **Way Forward**
➢ To put in place a guideline which is more detailed on how to mitigate any barriers to E-procurement adoption
➢ To find good organizational structures with the fundamental assets and abilities to drive E-procurement adoption
➢ To come up with E-procurement practices which are effective and innovative.
APPENDIX B: INTRODUCTORY LETTER

See the introductory letter on the next page.
Our Ref: Ref-COS/AO/MMS

27th June 2019

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: PETER NGOSA STUDENT ID. 001-688

The above captioned bearer of this letter is a bonafide student of Cavendish University-Zambia pursuing a Bachelor of Arts Purchasing and Supply (BA PS) Degree Program.

The student is required to carry out a research on the following topic “Factors Affect the Adoption of E-Procurement in three Government Ministries: A case in Mansa, Zambia”. The purpose of this letter is to request for any assistance in acquiring information that may assist the students to carry out the assignment. The information shall be treated purely for Dissertation purposes.

Thanking you in anticipation

Yours Faithfully,

MR. MOSES M. SOSANDI
ACADEMIC OFFICER

Cc: Student File

Cavendish University Zambia
Villa Elizabetha, Corner of Great North and Washama Roads, Plot 4302
P.O Box 34625, Lusaka, Zambia, Tel: +260 211 387600
www.cavendishza.org
APPENDIX C: SAMPLING FRAME

<table>
<thead>
<tr>
<th>NO.</th>
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<tbody>
<tr>
<td>1</td>
<td>MINISTRY OF GENERAL EDUCATION - DEBS</td>
</tr>
<tr>
<td>2</td>
<td>MINISTRY LOCAL GOVERNMENT AND HOUSING</td>
</tr>
<tr>
<td>3</td>
<td>MINISTRY OF HEALTH - PHO and DHO</td>
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APPENDIX D: WORDS TO THE RESPONDENT

Dear respondent,

This questionnaire is designed to assist a final year student pursuing a Bachelor of Arts in Purchasing and Supply class of CAVENDISH UNIVERSITY ZAMBIA to collect data on THE FACTORS AFFECTING THE ADOPTION OF E-PROCUREMENT IN THE THREE SELECTED GOVERNMENT MINISTRIES: A CASE IN MANSA DISTRIC, LUAPULA PROVINCE, ZAMBIA. These Ministries are Local Government and Housing, The Ministry of Health and the Ministry of General Education. Kindly note that the research is solely for the award of a BAPS and nothing else. Therefore you are encouraged to give as much information as you can. The information will be treated with the strictest confidentiality it deserves.

INSTRUCTIONS

Take enough time to read the questions before answering.

Answer all Questions by ticking and/or explaining as much as possible where appropriate.

Be honest in answering Questions.

Give precise answers.

You can choose not to answer some questions.

Participation in this interview is voluntary
# APPENDIX E: THE QUESTIONNAIRE

<table>
<thead>
<tr>
<th>No.</th>
<th>Research Questions</th>
<th>RESPONSES</th>
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<tbody>
<tr>
<td>1</td>
<td>Has the institution adopted E-procurement?</td>
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<td>2</td>
<td>If No, are there some factors affecting the adoption of e-procurement?</td>
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<td>3</td>
<td>And if Yes, are the employees utilizing E-Procurement?</td>
<td></td>
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<tr>
<td>4</td>
<td>Has E-procurement really reduced the cost in the procurement department?</td>
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</tr>
<tr>
<td>8</td>
<td>Are there really benefits in the full utilization of E-procurement?</td>
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</tbody>
</table>
APPEDIX F: RESEARCH PROPOSAL

FROM: PETER NGOSA

PROGRAM: BAPS

STUDENT ID: 001-688

MOBILE PHONE #: 260 967757559

DATE: 26TH FEBRUARY, 2019: TIME: 15 HOURS: 17 MINUTES

INSTITUTION: CA VENDISH UNIVERSITY, ZAMBIA


Below is the detailed information of the study

The purpose of this study is to find out the factors affecting the adoption of electronic procurement in the selected three government ministries namely Ministry of Health, Ministry of education and the Ministry of Local Government and Housing, a case in Mansa District, Luapula Province, Zambia.

After the research, there will be reviewing the literatures on adoption of e-procurement in the selected government organizations. This study will bring out a number of key factors contributing to the adoption of e-procurement. Based on these factors, a questionnaire survey will be conducted among the government procurement officers and analyze the responses to the questionnaire survey.

Using these processes, hypotheses will be developed and tested accordingly. The results will help us identify the bottlenecks so that policy can be implemented effectively and IT readiness will encourage the adoption of e-procurement and simultaneously reduce the traditional methods of service delivery and enhance effective procurement in the public organizations.