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LUSAKA

School of Postgraduate Studies

**FACTORS AFFECTING THE ADOPTION AND USAGE OF ELECTRONIC  
PROCUREMENT IN COUNCILS: A CASE STUDY OF SOME COUNCILS  
SOUTHERN PROVINCE, ZAMBIA.**

A DISSERTATION SUBMITTED TO THE SCHOOL POSTGRADUATES,  
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MASTERS OF SCIENCE IN PROCUREMENT, LOGISTIC, SUPPLY CHAIN  
MANAGEMENT

BY

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## DECLARATION

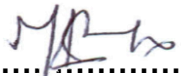
### DECLARATION

The work presented here is all mine, unless otherwise noted in the text, and I, Chilemo Bernadette, thus declare that it is submitted in partial fulfillment of the requirements for the Master of Science in Procurement, Logistics, and Supply Chain Management degree.

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## **DEDICATION**

I dedicate this research to God, the Almighty, who is my creator and the source of all my inspiration, knowledge, and understanding. He has also provided me with all of my strength during this study. I also dedicate this work to my late husband Vincent Kamwi, whose support ensured that I gave it everything I had to finish what I had started. He had encouraged me all the way up to his passing. To my devoted Mother, my brothers and sisters, and my children—in particular, my infant baby Limpo Kamwi, who was adversely affected in every manner by this visitor but maintained her belief that the mother was successful—I thank you. You all make me proud, and my affection for you is immeasurable. Thanks

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## ABSTRACT

The government has been slow to adopt e-procurement and reap the benefits of this new technology for the public sector as a result of the lack of extensive and extended research and conclusions on the topic in the Zambian context. For the majority of Zambia, especially public institutions that play a big role in providing social services to Zambian citizens, addressing the adoption of this new technology has become another problem for the TOE (Technological, Organizational and Environmental) framework. In this study, the variables influencing the adoption and application of electronic procurement in council were evaluated. The descriptive survey research design was used for this investigation and the study had a sample size of 45. A few councils in Zambia's southern province, including Choma Municipal Council, Monze Town Council, and Livingstone City Council, were the target population and the study was a mixed research approach. Questionnaires were the main data collection tools. The study found that the council's readiness to adopt and use e-procurement was low because of limited financial and human resources, a lack of adequate IT infrastructure and a reliable internet connection, the lack of support from relevant stakeholders, and staff members' lack of technical knowledge and skills for e-procurement adoption. Since the study identified a lack of funding as one of the obstacles to implementing e-procurement, it is advised that organizations that intend to do so make appropriate financial resources accessible. In order to support organizations implementing the e-procurement system, the government must also give enough resources. Institutions must also create and maintain a strong IT infrastructure.

**Keywords:** e-procurement, IT infrastructure and ICT skills

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## **Chapter one: Introduction and background**

### **1.0 Introduction**

In an effort to combat the pervasive corruption in public contract bidding, particularly in the telecom and construction sectors, Zambia has joined the increasing list of African nations implementing electronic procurement systems (ZPPA, 2019). This research investigated the factors affecting the adoption and usage of electronic procurement in councils: a case study of some councils' southern province, Zambia.

This chapter aims at introducing the overview of the research topic. It initially gives a background of the study followed by a classification of the problem statement, the identification of research questions and research objectives, a discussion of the significance of the study and scope of study. Lastly, the chapter is concluded with an outline of each chapter of this research. The researcher introduced the on-going (current) research debates and trends on e-procurement adoption in Zambia, also discusses the relevance of this study to government and procurement regulatory authority, private entities, and academicians.

### **1.1 Background of study**

In the last half of the twentieth century, there was a revolution in the industry as a result of the harnessed power of seemingly ever-increasing capacity, speed and functionality of computers and microprocessors (Ameyaw, 2019). This trend made a way for management and workers within industries with new capabilities for management, planning and control, design, quality assurance and customer support. Structured information flow became the foundation of industrial companies. New applications, tools and information technology systems emerged and evolved to facilitate companies to integrate the various departments like Design, Procurement, Manufacturing, Sales and Finance within companies, predominantly the larger ones, including international corporations, providing opportunities for them to meet new demands for product time to market, just in time supply of orders, and customer support (Ahimbisibwe, 2018).

All over the world, studies have been conducted to investigate the impact of e-procurement on implementation of common use items. Amani (2015) for instance in their

study on the impact of e-procurement: Experiences in the United Kingdom (UK) public sector revealed that e-procurement is significant in making easy and accurate purchase of common use items. It was recommended from the study that for organizations to succeed in e-procurement adoption is to address the internal service quality attributes of e-procurement processes. A study conducted in China by Li, Huaming, Dong Quing and Yao (2015) not only offered valuable insights for stimulating the diffusion of e-procurement systems, but also provided important guidance to systems vendors in strategizing their marketing campaigns and focusing limited resources on relevant strategic components. This was supported by Eskandarian (2015) in his study on impact of quality factors on e-procurement success of Iranian automotive industries that e-procurement is essential for the implementation of common use items.

Although much has been studied in the rest of the world, Africa is not behind on studies related to the adoption of e-procurement for common use items. For instance, a study by Gebremedhin (2016) in Ethiopia indicated that the implementation of common use items and services largely depend on the effectiveness of e-procurement procedures. Among of other advantages is that e-procurement reduces corruption in public procurement.

In South Africa, a study done by Laryea *et al* (2019) on e-procurement in the South African construction sector in two government departments in the Gauteng Province confirmed that the paper-based system is prone to manipulations, delays in approval, poor records keeping and wasted resources. A limited use of electronic systems in the procurement of works was observed, this affected their performance specifically for common use items. The study indicated that the call for tenders and payment of contractors were the only activities executed using electronic database and software, respectively.

In Ghana, a study by Mensah (2016) reported that the use of e-procurement systems in public procurement, ensures the availability of the day to day supplies and services which in turn increase effectiveness and efficiency. The study further revealed that, the traditional methods of procurement such as the use of papers was more expensive and deteriorated services to the public. Kahiu (2015) conducted a study on determinants of implementation of e-procurement in procuring entities at the County level in Kenya which

revealed that electronic procurement implementation was affected by various factors which include budgetary allocation, level of technological infrastructure, top management support and staff proficiency in ICT skills. The study also found the existing relationship between e-procurement and implementation of common use items.

In Zambia, the growth of business to business, e-commerce remains strong as information and communication technologies continue to transform as well as the transformation of organization's interaction with their suppliers and customers (Majuto, 2017). In supply-side activities users of e-procurement technologies reported that they can acquire goods over the Internet from only 15 percent of their supply base (Davila, Gupta, and Palmer, 2005). For the case Zambia of a total of 1,958 suppliers of goods and services from different regions have been registered with ZPPA up to date since the system was officially launched.

The council was chosen in this study since it is a special agency for procurement of in public institutions in Zambia. Ngosa (2019) examined the effectiveness of e-procurement in local Government authority in Zambia: The current study done by Nziku and Siwandeti (2019) on factors affecting adoption of e-procurement in private companies in Tanzania indicated that the use of good e-procurement software system is necessary as it help greatly reduce the time and effort required to complete purchasing transactions by eliminating traditional paper chain of requisitions, approvals, receiving, payment reconciliation and reduces face to face interaction hence lower risk of corruption. From the above none of them specifically analyzed the factors associated with the adaption and usage of electronic procurement by the council.

## **1.2 Statement of the Problem**

E-procurement has long been regarded as a means of bringing nations and communities together in a global market economy. Zambia, one of the least developed nations, had made some modest but significant progress with its e-procurement application, particularly during the institutionalization phase (Kabanda, 2012). Governments all around the world have very lofty objectives and are implementing financial-intensive programs to deploy electronic service delivery in the public sector (Georg, 2010).

Before the internet, many people believed that procurement processes were monotonous and regular. The World Wide Web's evolving capabilities in recent years have altered this perception. The majority of organizations either preferred to designate personnel from inside the various divisions to carry out specific procurement activities or had distinct procurement offices. These procedures had been labor-intensive and heavily paper-reliant, making them expensive and ineffective. Numerous commercial organizations had determined that using internet resources to improve task performance was both appropriate and unavoidable (Akintola & Oyediran, 2011).

Procurement managers are being pushed to develop new strategies for enhancing purchasing efficiency by the growing pressure on corporate procurement divisions to streamline their operations and add value to the company. Several firms were still ignoring these technologies, despite the fact that many researchers had discovered that e-procurement solutions had a significant impact on making the procurement process easier and more effective (Viljami, 2012).

The public sector's use of e-procurement held a lot of promise. When a government is able to compile all of its purchases and bargain as one entity, it may be able to reach favorable agreements with suppliers. The end users can view the negotiated agreements by logging into the system online once they are made available in the eProcurement system. The negotiated agreements could be used by the end users to electronically submit their orders. The transaction processing costs are reduced when the internal finance system of an organization is linked to the e-procurement system. E-procurement reduces opportunistic behavior among purchasing officials by automating a number of administrative processes and by improving monitoring capabilities (Ramanathan, 2004).

The government has been slow to adopt e-procurement and reap the benefits of this new technology for the public sector as a result of the lack of extensive and extended research and conclusions on the topic in the Zambian context. For the majority of Zambia, especially public institutions that play a big role in providing social services to Zambian citizens, addressing the adoption of this new technology has become another problem for the TOE (Technological, Organizational and Environmental) framework.

According to a review of published literature, particularly from developing countries, there isn't much empirical research focusing on Zambia's three main elements (technological, organizational, and environmental) in determining the adoption of e-procurement. In an effort to reduce the gap, this study project concentrated on those elements influencing the adoption of e-procurement in Zambian public organizations.

### **1.3 Research objectives**

#### **1.3.1 General objective**

The main aim of this research is to analyze the factors affecting the adoption and usage of electronic procurement in municipal councils; a case of Southern Province councils.

#### **1.3.2 Specific objectives**

- (i) To ascertain Information technology infrastructure availability for e-procurement adoption and usage.
- (ii) To examine how ready, the stakeholders are for the adoption and usage of e-procurement.
- (iii) To determine the barriers towards e-procurement adoption and usage.

### **1.4 Research Questions**

- (i) Is information technology infrastructure available for e-procurement adoption and usage?
- (ii) How ready are the stakeholders for the adoption and usage of e-procurement in the local councils?
- (iii) What are the barriers towards e-procurement adoption in the local councils?

### **1.5 Significance of the Study**

The adoption of e-procurement in Zambia is being supported, influenced, and accelerated thanks to the knowledge provided by this research to the government and policy makers in the field of public procurement. The study's findings are expected to inspire the government and other responsible parties to take the required steps to resolve the obstacles to Zambia's adoption of e-procurement, particularly those related to technology, organizational structure, and the environment. Additionally, this research offers a broad overview of the adoption of e-procurement in the Zambian environment. Additionally, the study will help procurement scholars understand how organizational, technological, and environmental aspects influence the adoption of e-procurement and point up problems that require further study. In bridging the gap between theories and practices of the use of e-procurement in a Zambian setting, this also contributes to the body of knowledge.

### **1.6 Scope of the study**

The adoption of e-procurement in Zambia is being supported, influenced, and accelerated thanks to the knowledge provided by this research to the government and policy makers in the field of public procurement. The study's findings are expected to inspire the government and other responsible parties to take the required steps to resolve the obstacles to Zambia's adoption of e-procurement, particularly those related to technology, organizational structure, and the environment. Additionally, this research offers a broad overview of the adoption of e-procurement in the Zambian environment. Additionally, the study will help procurement scholars understand how organizational, technological, and environmental aspects influence the adoption of e-procurement and point up problems that require further study. In bridging the gap between theories and practices of the use of e-procurement in a Zambian setting, this also contributes to the body of knowledge.

A study of the councils in the southern provinces of Livingstone, Monze, and Choma was used to analyze the aspects related to the adoption and use of electronic procurement in council. Workers in council management provided information for this study. This research was conducted between April 2022- July 2022.

## **1.7 Chapter organization**

This study is organized into the following six chapters: introduction, problem statement, research question, objectives, scope and significance of the study, and organization of the study. Chapter two is broken into three sections. The literature review and empirical review for the study are covered in chapter two. In the second chapter, the theoretical and conceptual background will be covered. The research methods will be covered in the third chapter. The data analysis based on the study's goals and research questions will be presented in the fourth chapter. The research's conclusion and recommendations are presented in chapters five and six.

## **1.8 Key terms and definitions**

E-Procurement

A web interface or other networked system is used to buy and sell goods and services via e-procurement (also known as electronic procurement or supplier exchange).

IT infrastructure

In the context of enterprise IT, infrastructure refers to all the hardware, software, network resources, and services that are necessary to support and sustain an IT environment.

Legal framework

Using a framework, you can decide what to do in the face of issues or make decisions on how to proceed.

Procurement

Acquisition of any kind of goods, works, services, or assets, or any combination of goods, works, or assets, is referred to as procurement. Acquiring goods, works, services, or assets can be accomplished through purchase, rental, lease, hire purchase, license, franchise, or any other contractual means.

## **1.9 Chapter Summary**

This chapter included an overview of the history of the study, a problem statement, research objectives, research questions, the scope of the investigation, and its relevance,

and it closed with an explanation of how the study would be carried out. In the following chapter, we will conduct a literature review on the various factors that influence the implementation and utilization of electronic procurement.

## **Chapter two: Literature review**

### **2.1 Introduction**

This chapter provides a review of the research that has been conducted on the effects that electronic procurement processes have had on service delivery. The definition of the ideas, a review of the theoretical literature, a review of the empirical literature, a conceptual framework, and a research gap are included in this chapter.

### **2.2 EMPIRICAL STUDIES**

#### **2.2.1 Factors affecting e-procurement adoption in the public sector worldwide.**

Since organizational culture is a fundamental element determining the successful implementation of an electronic procurement system in public organizations worldwide, Melidi (2013) identified five major variables that limit the successful deployment of an electronic procurement system. The first problem is that there are not enough training facilities and trainers for trainers. People eager to study can't access public education because facilities are in disrepair. It's also difficult to integrate with existing systems. They are too occupied with the old ways of acquiring products and services and don't recognize the benefits of adopting new technologies, such as shorter procurement processes, less paper waste, and the ability to see a product's specifications before an order is placed among other things. E-global procurement's adoption is hampered by a lack of top-level support. Purchasing computers and employing experts to analyze and fix the internet that every employee can use while working is too expensive, according to management, so they don't want to spend money on it.

#### **2.2.2 Technological Infrastructure and e-procurement adoption.**

The global technology infrastructure is also a determining element in the adoption of e-procurement. Because of this, Sing (2011) reveals that organizations are improving their IT infrastructure and reorganizing their business operations to become digital enterprises in today's world. Unless the internal stakeholders of the organization maximize the use of IT infrastructure, productivity gains will be greatly diminished, thus it is vital to uncover the elements that affect the acceptance of e-procurement systems and the use by the employee." IT infrastructure, according to ArieSegev (1998), could result in significant

market shifts. Because of their newness, most current commercially accessible off-the-shelf solutions were able to help organizations cut costs, improve service, speed up delivery times, and boost their elasticity while also facilitating critical tasks.

Adoption of electronic procurement is therefore strongly dependent on the technological infrastructure in place to facilitate such an endeavor.

### **2.2.3 Employees Willingness to Adopt e-Procurement System**

E-procurement adoption around the world is affected by the willingness of employees to use the system. As Walter (1999) points out, there are many different types of e-procurement systems out there. In this regard, Walter (1999) believes that an organization's adoption of the system by operators, confidence, utility, and risk perception are among the important e-procurement elements that must be taken into account. Other considerations include training, implementation and process consistency, help for the elderly, performance monitoring, feedback and revision, and the selection method of e-procurement systems. According to Davis (1993), a successful IT system depends on the satisfaction and acceptance of its end-users. New information systems are accepted by the public when they are widely used and adopted by a big and well-intentioned group. According to Ghatani (1999), a considerable improvement in the indicator of IT adoption can be determined by tracking the use of the system. The efficiency of an electronic procurement system is dependent on its installation and regular use by experts, as stated by Bedell (2002) with regard to the introduction of new technology in the working environment E-procurement systems, for example, are self-service tools that end users are sometimes reluctant to use. A successful adoption of an e-procurement system relies heavily on the support of senior management, employee readiness, and the availability of people. These factors were all mentioned by Mose (2013). The willingness of employees to embrace an e-procurement system is therefore a critical factor in its acceptance.

#### **2.2.4 Strategic Value of e -Procurement for Organizations**

E-procurement adoption is hindered by the absence of strategic value of e-procurement for companies around the world. Strategic performance that enables e-procurement has not yet been fully appreciated by many firms, and this needs to change immediately. The winning e-procurement implementation project has become a useful factor in the ability to allow processes to move higher, faster, differently, more effectively, in parallel or to allow the development of any new processes because of this, Philips (2008) argues. E-procurement, according to Rajkumar (2001), has emerged as a key player in supply chain management over the past few years. Since then, firms have embraced new digital methods for purchasing products. There are numerous commercial organizations, B2B reasons for electronic procurement based on the possibility of many services, some of which include price reductions, lower transaction costs, good implementation/processing, and timely supply. Procurement strategy has had a good effect on the company's financial performance, according to Carr and Pearson (1999). Encourages, and may lead to long-term cooperation with its primary suppliers. Consider purchasing as a long-term strategy.

#### **2.2.5 Factors affecting e- procurement at regional perspective**

The adoption of e-procurement is also affected by elements in the African setting. The high cost of an e-procurement system was deemed to have a negative impact on its utilization by Mukosa and Mwangangi (2018) because it requires a large amount of capital to be successful in its implementation. E-procurement processes can only be successful if the buyers own and use the system they've purchased, according to the authors.

As a result, e-procurement is not yet part of a financial management system in Africa that can facilitate online payment for suppliers, as the regulatory framework in our region has an impact on the adoption of e-procurement. They also complained about the lack of support and customer service from the system providers. When it comes to purchasing, businesses have shifted from a conventional administrative nature to a more business-oriented one in order to satisfy the demands of today's dynamic and more focused corporate environment (Altayyar, 2009). I.T. has been essential in making acquiring business more valued as part of core company activities. Companies are eager to implement IT since it streamlines the purchasing process and costs less in the long term.

### **2.2.6 Stakeholders Perceived Benefits of E-procurement Adoption and usage**

Stakeholders must be persuaded of the advantages of e-procurement, according to Andrade and Alturas (2017). E-procurement may not guarantee greater sales, but it can give numerous other benefits, such as reduced transaction costs and speedier payment through improved invoice processing. E-strategic procurement's benefits were identified by Chang (2008) to be the fact that all suppliers recognized that the e-procurement system would become the only channel via which buyers could place orders, and that they would not receive any orders if they refused to use the system. Because of this, implementing an e-procurement system is more than simply an advantage; it is essential. Operational advantages include reduced payment processing time and errors, as well as improved order processing accuracy. Significant advancements in shipping and packaging have been noted by the author as well. According to Lysons and Gillingham (2016), e-benefits procurements by provider can be broken down into hard and soft benefits.

There are a number of concrete steps that can be taken, such as increasing throughput and reducing transaction costs, paying invoices electronically to eliminate payment delays, decreasing average inventory levels, and cutting headcount. Improved order tracking and tracing, better access to management information and accounting, and reduced maverick buying are all examples of soft measures. In Baily's words: (2018) A few advantages of e-procurement to provider include: time savings through more efficient processes, better budgetary control from decreased expenses, administrative errors eliminated, product uniformity achieved, and better information management.

### **2.2.7 The Readiness for E-Procurement Adoption by stakeholders**

Best practices in e-procurement adoption and use were defined in this study based on the perception of stakeholders' readiness for e-procurement adoption and use. The procurement environment, the economic environment, the legal environment, the organizational environment, and the technology environment must all be considered when establishing the readiness of any institution for e-procurement adoption (AGIMO, 2005).

An institution's procurement structure, whether it is centralized or decentralized, e-procurement adoption factors, and e-procurement support from essential stakeholders can all be used to gain insight into the procurement environment. In the context of the legal system, it is critical to evaluate both domestic and foreign jurisdictions. For example, e-procurement attempts fail due to legal and regulatory issues, such as the security of electronic payment. Because the Tanzanian Public Procurement Act of 2004 and its 2005 regulations did not include e-procurement, this was an obstacle to e-procurement readiness. Supplier and buyer market dynamics are taken into account while analyzing the economic climate. As long as customers' desire for electronic procurement is great, the supplier will be tempted to adopt it, as failing to do so means that it will miss out on online business.

There are several aspects that contribute to an institution's readiness for e-procurement adoption. This includes anticipated levels of acceptance, the ability of personnel and management to adapt, and the financial capability to pay for the system's set up and operation. By looking at the organization's technology infrastructure, the staff's technical know-how, and the standards and compatibility issues, the most essential component in determining preparedness is the technological environment.

The external environment also influences suppliers' adoption of e-procurement. Business partners who have already embraced Electronic Data Interchange (EDI) would try to persuade their counterparts to do the same, according to Gunasekarana and Ngai (2017). Consequently, this external effect shapes the supplier's readiness. One of the most crucial success factors in the adoption of electronic procurement by suppliers was identified by Andrade (2017). Capacity building training, systems integration, top management support, business process reengineering, and adoption process support are included in this category.

In order to lessen the perceived technical complexity of the e-procurement system, the supplier will be ready to deploy e-procurement if they have received initial training on how to run the system. E-procurement adoption can be easily implemented with the help of qualified vendors. The buyer's system must be integrated with the supplier's as well. Due to streamlined and integrated procurement processes, stakeholders can be prepared for

any eventuality. It remains an issue for some stakeholders to meet the system's technical requirements. E-procurement adoption depends heavily on the backing of senior management, since most stakeholders entrust critical choices, such as whether or not to use e-procurement solutions, to them. Gunasekarana and Ngai (2017) argue that senior management support and commitment is essential to ensure that resources are committed, overcome opposition to change, and foster an organizational climate receptive to adopting technological innovation. When purchasing is done electronically, the procurement process undergoes major shifts, including a reduction in human labor and an increase in security requirements, as well as an increase in the cost of integrating supply chain partners. Reengineering the current business processes is depicted in this way.

### **2.2.8 Introduction of e-procurement in Tanzania**

The 2011 Tanzanian Public Procurement Act will make it possible for the country to implement e-procurement. It was necessary for the government to revise the mechanisms for supporting public procurement through the use of information and communication technologies (ICTs) in order to make this possible (PPRA, 2010). Tanzania's National ICT Broadband Backbone (NICTBB) strategy, implemented in 2003, was another important factor in the country's adoption of e-procurement. According to the National ICT Broadband Backbone (NICTBB) project, the major goal was to improve E-government services, which included E-education, e-schools, e-learning, online studies and other e-services such as e-health, Telemedicine and e-agriculture, e-tourism, and e-procurement. E-procurement in Tanzania has evolved since 2010, with new features such as a Tender portal where suppliers can view all open tenders, access to information on the award of contracts from different procuring entities (PEs), and PMIS-Procurement management information system being used as a primary indicator. As an online system for submitting annual procurement plans and reports to PPRA, it allows users to examine and monitor procurement operations in real time (PPRA, 2010).

### **2.2.9 Factors affecting e-procurement at national level**

The Zambian Public Procurement Authority (ZPPA) has been working to improve the transparency, accountability, and effectiveness of public procurement at the national level.

An electronic government procurement system designed by European Dynamics has been implemented as part of this endeavor, according to Learning Insights Zambia (2019). From the beginning, this system was built using the Open Contracting Data Standard (OCDS). The ZPPA has also begun to outline how these data should be used for increased monitoring and supervision.

The positive part of e-procurement continues to grow, but so do the obstacles. As a result, according to The Insights Zambia (2019), a major difficulty in the Zambian setting is the insufficient amount of data. The e-GP system has so far been implemented in 23 organizations. Although many procurement organizations are aware of it, many still do not use it. At the moment, the system only has roughly 300 contractual processes, indicating that purchasing entities in Zambia have not yet widely utilized it. E-GP is not mandatory and there are no penalties for not using it, and there are serious connectivity and hardware issues. There is still a preference for the old system because of concerns about information sensitivity and ease of use, and e-GP has not yet been implemented. Furthermore, according to the Insight's statement, information and reports on procurements are available. A further statement from the Insight stated that, while procurement data can be retrieved from the portal, this data does not represent a true picture of procurements undertaken by Procurement Entities, as some procurements are done outside e-GP and thus are not included in the system, and procurement plans updated on E-GP are often incomplete. The Insights also argued that other issues with data quality, such as those involving identifiers, may take time and real effort to resolve, according to their findings. In addition, there are disparities in the number of tenders reported in the OCDS and open contracting reports compared to the information in the live e-GP system.

Last but not least, the Zambian Insight stated that the OCDS was to be created and led by Zambians. Cyber-attacks and weak internet infrastructure, expensive internet costs,

and frequent Internet failures all contribute to the failure of e-procurement in the Zambian public sector. Due to a lack of literature on how to overcome barriers to e-procurement in Mansa District as of June 2019, the researcher was compelled to look into how the ministries for local government and housing as well as for general education and health are preventing the full implementation of e-procurement. Future scholars will be able to use this information.

### **2.3 E-procurement**

E-procurement is the practice of using the internet or an organization's intranet to procure goods and services for use in an organization's commercial operations (Grilo, 2018). Companies can decentralize their operational procurement processes and centralize their strategic procurement processes because of the high degree of transparency provided by e-procurement systems in the supply chain, which is thought to streamline all aspects of the purchasing process while also applying tighter and more transparent controls over spending and preferences for products or items (Simemba, 2017).

Adoption of e-procurement means incorporating technology into the procurement process. In the world of information and communication technology (ICT), the prefix "e" typically denotes something related to the Internet and the Internet's infrastructure. Individual or all stages of the procurement process, including searching, sourcing, negotiating, ordering, receiving, and post-purchase review, can be carried out using internet-based (integrated) information and communication technologies (ICTs). (Croom et al., 2004). E-procurement quickly rose to the top of the list of most often used software solutions. Improved business procedures and a stronger bottom line have made it a popular choice for firms looking to implement new technology. Governments, which participate in significant purchasing and are key buyers for a wide range of goods and services, have not overlooked these advantages (Yusof, 2010).

The elements that influence an organization's adoption of e-procurement vary from organization to organization and country to country. Electronic procurement is driven by a variety of causes in different organizations, according to Williams (2006). These influences include the management of the business; customers; suppliers; rivals; and government requirements.

### **2.3.1 E-procurement and its implementations**

Suppliers' e-readiness might be ascribed to the support they receive during the adoption process. A successful installation of any e-procurement platform relies heavily on the engagement of the suppliers. Given the foregoing, the readiness of suppliers to switch from traditional paper-based procurement to electronic systems is more heavily influenced by the organizational context. As defined by Vaidya (2016), "readiness for change" refers to the willingness and ability of an organization's members to embrace and carry out the changes necessary to meet its goals. In other words, the members of the organization should be dedicated to taking action because they want to, because they have no other choice, or because they feel compelled to do so. The ability of an organization's members to believe in their collective ability to plan and carry out the changes necessary for change implementation is referred to as the "change efficacy." Suppliers' willingness to adapt to e-procurement is influenced by a variety of elements, including the valence, efficacy, and context described below:

Change valence is a major factor in motivating people to make a shift. Prior to committing to a change, suppliers' employees must be convinced of the worth of the proposed modifications. The organization's members will be dedicated to implementing e-procurement because of the shared reasons they have for appreciating the strategy.

Task demands, resource availability, and situational circumstances all contribute to an organization's capacity to successfully adopt a new strategy. In order to effectively implement the change, the members of the supplier organization should evaluate their organization's capacity in terms of human, financial, material, and informational resources.

Government suppliers' readiness to change is influenced by contextual factors such as a corporate culture that encourages risk-taking, innovation, and learning, all of which contribute to the readiness of suppliers for change. Flexible policies and processes and solid working relationships also contribute to change adoption. According to Padhi and Mohapatra (2009), management policy meant to introduce employees to the benefits of new technology, remove their fears about adoption, and boost the adoption rate was commended.

According to Suleman (2013), a supplier's reluctance to adopt new technology could be caused by a variety of factors, including a lack of accurate information about the benefits of the new technology, a lack of knowledge about what the future holds, and the opportunistic behavior of the user. When a provider offers a 10% discount as an incentive, it's an example of bribery.

## **2.4 Factors associated with the adoption and usage of electronic procurement**

### **2.4.1 Stakeholders Readiness for E-Procurement Adoption and change**

AGIMO (2005) defines "readiness" as "the present use and possible adoption levels of e-procurement by any organization, shaped and constrained by technological, economic and institutional contexts and events at the local, national and trans-national levels." Orina (2013) defined E-Procurement readiness as a measure to which an organization or corporation may be ready, prepared, or willing to accept, utilize, and reap the benefits of the digital economy, such as e procurement. The supplier is a critical stakeholder who must be ready to minimize the expected problems during implementation in order to effectively execute e-procurement. The other stakeholders include purchasing institutions, legal and regulatory frameworks, which have an impact on the adoption of e-procurement. To be effective, e-Procurement must be integrated with suppliers and electronic marketplaces, as well as internal procedures, according to Puschmann and Alt (2001).

Ready for change is defined as having the collective belief in one's own power to bring about a change, which is what Vaidya (2016) calls "change efficacy," or the belief in one's own collective ability to bring about a change.

### **2.4.2 Employees Willingness to Adopt e-Procurement System**

Employees' desire to embrace an e-procurement system is the third element influencing its global acceptance. According to Walter (1999), e-procurement systems come in a variety of flavors. The adoption of the system by the operators, confidence, utility, and risk perception are just a few of the important e-procurement elements, according to Walter (1999). In addition, there is training and implementation, as well as process consistency and support for the elderly, as well as performance monitoring, feedback, and amendment of the e procurement system selection method. Davis (1993) stated that

the success or failure of an IT system is based on the satisfaction and acceptance of the end-users. When a new information system is well-liked by its users, it has the potential to be widely adopted and used by the general population. It was stated by Ghatani (1999) that a considerable improvement in the indicator of IT adoption is measured in terms of system use. And, according to Bedell, (2002), the success of an e-procurement system depends on its deployment and regular use by procurement specialists. For example, end consumers may be reluctant to adopt self-service procurement E-Systems. In addition, Moses (2013) observed that a successful e-procurement system adoption relies heavily on top management commitment, employee willingness to use the e-procurement system, and staff availability. Consequently, the adoption of e-procurement is also heavily dependent on the willingness of employees to use the e-procurement system.

#### **2.4.3 Barriers towards E-procurement Adoption**

Andrade (2017) drew attention to the perceived obstacles that suppliers cite as reasons for not implementing e-Procurement. For example, customers' price reduction pressure can prevent suppliers from investing in new technology, product development, or facility upgrades and expansions that would increase their overall capacity for producing goods. This is in addition to the fact that implementation and maintenance costs, lack of interoperability, and standards surrounding data interchange are all issues that need to be addressed.

According to Abramson (2015), e-procurement must overcome the following hurdles in order to sustain itself as an endeavor and reap the anticipated benefits and utility. E-initial procurement's installation expenses, including employee training and other fees, are so high that most government offices are unable to find the financial resources needed to implement it, preventing them from keeping pace with modern procurement technology.

Problems with technology and standardization; a lack of technical capacity whereby responsible personnel need such specialized technical skills, such as managing electronic catalogs and electronic ordering, internet-based bidding and reverse auctions as well as digital signatures, purchasing cards and automated procurement systems, to manage them. Suppliers also have challenges in adopting e-procurement due to the lack of standardization and interoperability. e-procurement market integration fails because

many government offices lack the technological and managerial resources needed to implement it, both on the vertical and horizontal levels. Public organizations encounter several challenges. Accountability and legal concerns. In public organizations, e-tendering is not possible because of rules such as the Public Procurement Act of 2004, which prohibits the acceptance of electronic offers from vendors. An e-procurement system must be protected from misuse, fraud, and mismanagement if it is to be a success.

There are issues with internal and external management. An organization's policies and procedures should specify thorough institutional guidelines for e-procurement decisions and processes as well as clear procedures and functions, and it should develop deeper, more strategic connections with its suppliers. ASPs and suppliers need to be kept up to speed on procurement products and prices, and they need to be able to bargain with one another for better options and costs.

The obstacles to e-procurement adoption include; high costs of setup, lack of technical expertise, poor buyer-supplier relationships, perceived lack of real benefits, security/safety/trust, low priority, no legal framework, supplier lack of expertise/interest, lack of standard data format, and lack of e-procurement competency. (Baily, 2017).

Regulations such as the Public Procurement Act, No. 9 of 2011, as well as amendments to it, emphasize electronic procurement in Zambia rather than the preceding ZPPA 2004 and associated regulations, which focused on paper procurement. There are now legal considerations for e-payments, e-tenders, and online contracts. Keeping up with the high speed of technological change is a major difficulty outlined in the National ICT Policy, 2016 as the most pressing issue. Data access rights, privacy protection, computer fraud & crime, the security and privacy of e-transactions, the adoption of rules governing e-transactions, and the dissemination of e-opportunities to the general populace are among the subjects that need attention. Zambia's ICT sector also faces regulatory issues, such as a lack of standardization mechanisms.

System and network failure, lack of internet access from some suppliers, and a lack of technical experience were determined to be major obstacles restricting e-procurement in Tanzanian companies, according to Majuto (2011). Additionally, there is a lack of

knowledge, insufficient technological infrastructure, a lack of reliable power supply, and costly initial and ongoing costs. E-procurement was also found to save time, improve information accessibility, improve accuracy, and reduce administrative expenses, according to the research.

E-commerce services in Tanzania are hampered by the absence of national payment systems, local credit cards, and an urgently updated legal framework tailored to e-business, according to research conducted by Nafie (2017) in Dar es Salaam. As a result, e-business transactions cannot take place in a secure environment because of a lack of proper legal protections. When it comes to e-procurement services, the private sector does not have the ability to develop projects that would benefit everyone.

## **2.5 Theoretical Literature review**

### **2.5.1 Technology Organization Environment (TOE) framework**

It's Bagchi time (2013) An organization-level theory, the TOE framework describes how a firm's context influences new technology adoption decisions by taking into account three main elements: the technological context, organizational context, and environmental context. Both the internal and external technologies relevant to the firm are defined by the technological context, which includes both the present technologies the firm now uses and other technologies available on the market. A company's size, scope, informal electronic linkage, internal slack resources, and the centralization and complexity of the firm's managerial structure are all factors in the organizational context. Thirdly, the environmental context specifies the business environment in which an organization operates, taking into account the level of competition, market uncertainty, governmental interactions as well as the laws and regulations that regulate the industry (Teo and Laib, 2018).

The setting in which suppliers' readiness for e-procurement adoption is influenced by this hypothesis is significant to the research. E-procurement, a product of technical innovation, occupies the technological context. When it comes to e-procurement, suppliers' internal resources, culture, and expertise are all factors to consider. A last aspect of e-procurement adoption is influenced by the business partners, government policies, and regulatory framework.

### **2.5.2 The Institutional theory**

Both the organization and the individual's actions are explained and shaped by institutional theory. Organizational decisions are not solely influenced by logical efficiency goals, according to Oliveira and Martins (2011), but also by social and cultural elements, as well as by concerns about their legitimacy. Firms in the same industry tend to become homologous over time because of competition and customer pressure. Customers, business partners, and governments, among others, may exert pressure on suppliers to move to electronic procurement. The TOE framework's external pressures are influenced by this idea.

IT applications go from the individual level to the group, organizational, and inter-organizational levels as a result of the influence of institutional variables such as financial services, transportation, and communication and socio-economic institutions. Consequently, suppliers' willingness to implement e-procurement is determined by elements such as social and cultural aspects, firm physical infrastructures, and the industry structure in which the suppliers' organizations operate.

Shared beliefs, symbols, and understanding constitute the foundation of the cultural-cognitive pillar. The Public Procurement Act No.7 of 2011 (Revised, 2016) governs public procurement in Tanzania and should be followed by all companies. A case study of Zambia's southern province, based on these theories, helped researchers better understand why electronic procurement was adopted and how it was put to use.

Procurement officers have the option of either offering a public tender in return, which could lead to a lack of tender opportunities as everything is done electronically.

### **2.5.3 Innovation diffusion theory (IDT)**

Roger (1983 & 2003) described the dissemination of technological breakthroughs as a process governed by the elimination of uncertainty amongst potential users (i.e. e-procurement). Adoption is hampered by the lack of knowledge about whether new methods are better than the ones already in use, despite the fact that innovations generally provide their users new ways of handling everyday problems. Potential adopters were driven to seek further information, notably from their coworkers, in order to

counteract this ambiguity (Brancheau & Wetherbe, 1990) Early adopters, innovators, early majority, late majority, and laggards are all subclasses of early adopters, according to Rogers (1983, 2003). Rogers's concept indicated that innovations should be substantially different from current options in order to influence their adoption potential. The following is a list of the various characteristics that Rogers emphasized as being crucial for adoption (Dodgson, Grann, & Salter, 2008).

- Benefits that are relevant: Adoption will be more rapid and more effective if the advantages over current alternatives are greater. Criteria for Rogers included economic profitability, low initial cost, social prestige and time & effort savings.

Diffusion will be hindered if an innovation is difficult to understand or use. • Complexity:

An innovation's trialability measures its ability to be tried out and tested. This can only be done on a limited scale in the early stages of dissemination, which has an effect on the types of consumer profiles required for the first adopters of an innovation. Late adopters might draw on the wisdom and expertise of those who came before them.

A product's use and outcome can be observed to a certain degree, which is known as observability. The adoption rate of innovations that do not have obvious advantages will be lower than the rate of innovations that do.

#### **2.5.4 Resource dependence theory**

The study of how an organization's external resources affect its behavior is the focus of resource dependency theory. For an organization to acquire resources, the thesis states that the environment must be traded for the environment's resources (Scott, 1987). Most of the time, it's about how much money a company needs to keep going or expand (Bringer and Harrison, 2000). Businesses are forced to rely on others because they lack the resources to do so themselves. There is power in having access to and control of an organization's resources, which is the principle underlying this notion. By partnering with multiple external resources, such as non-authoritative bodies like the federal government, institutions often build redundancy in resource acquisition to reduce their reliance on a single source. Using this theory, researchers can better understand how e-procurement influences organizations and how much it impacts public institutions.

### **2.5.5 Stakeholder relations**

According to Theory Jones (1995), the term "stakeholders" refers to "subgroups like managers and internal customers who may have an interest in how a business is governed, as well as groups identifiable by words like shareholders or customers." This study looks at how decentralization has affected the effectiveness of procurement in Zambia's ministry of local government.

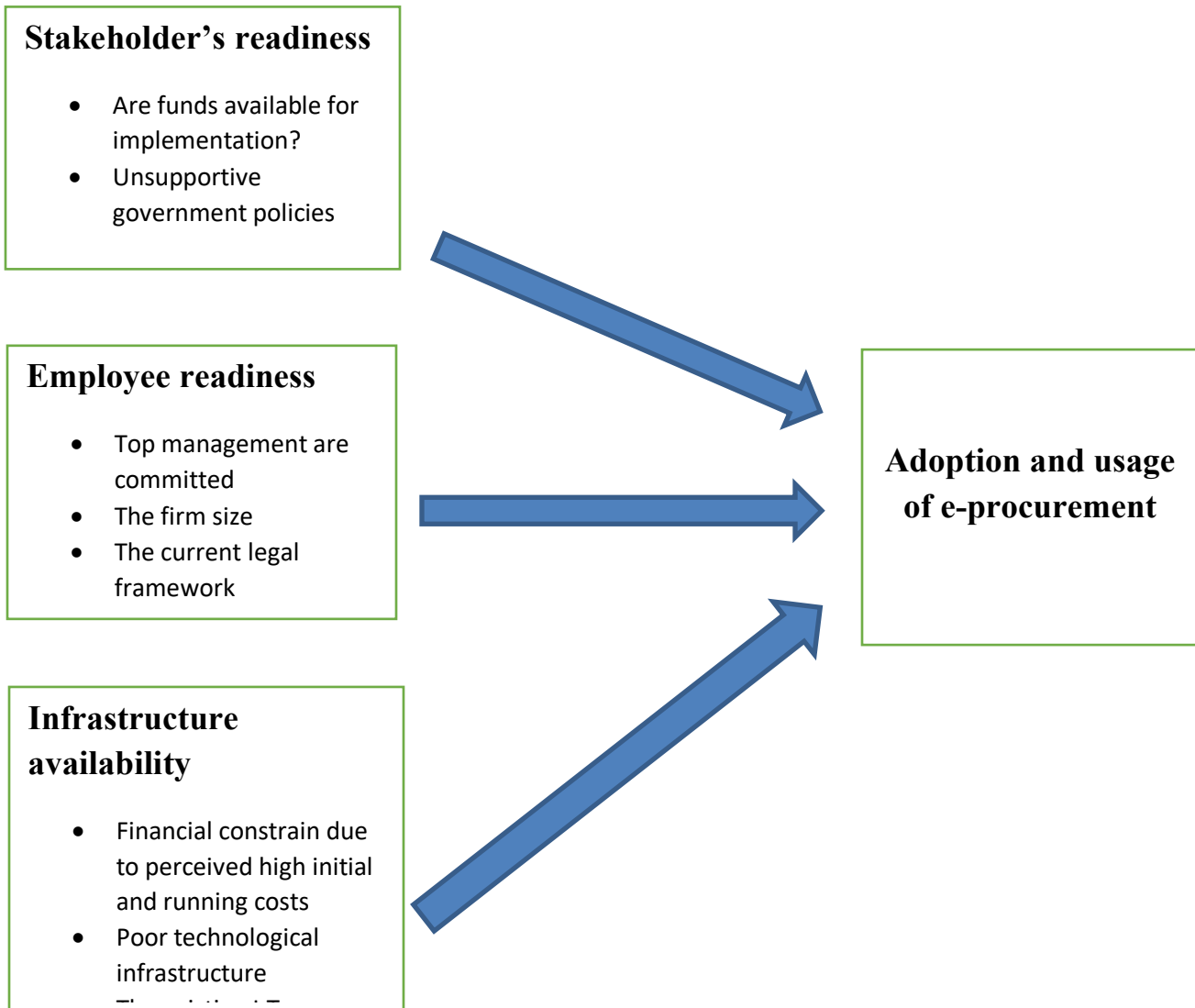
The study examines the important players, their goals and interests, and how decentralized procurement influences business operations. End users and procurement officers are two stakeholder groups that could be impacted (including management). The objectives of the business and those of external stakeholders like suppliers and the broader public may clash as a result of electronic procurement. In order to improve overall performance of procurement at the ministry of local government and foster constructive relationships with stakeholders, the study seeks to evaluate the influence of decentralized procurement on organizational procedures and processes.

### **2.6 Conceptual Framework**

According to Camp (2001), a conceptual framework is a framework that the researcher thinks best explains the development of the phenomenon under study. Some conceptual frameworks aid the researcher in connecting the study's variables. Adoption of e-procurement is a variable that is independent of adoption of e-procurement in this study.

## Independent variables

## Dependent variables



**Source: by author of this study (2022)**

### 2.7 Operationalization of Variables

Based on criteria that allowed it to be determined whether they currently affect the dependent variable, the independent variables were chosen (e-procurement adoption and usage). Adoption of e-procurement is dependent on a number of factors, including perceived stakeholder readiness and anticipated advantages. Adoption hurdles should also be kept to a minimum. This indicates that adoption hurdles are limiting suppliers' readiness to implement e-procurement. For instance, even if an organization is ready and

prepared to use e-procurement, its execution may be constrained by a lack of legal support. Based on study results and analysis, the researcher was able to illustrate the degree to which the independent variables influence suppliers' readiness for e-procurement adoption.

## **2.8 Research Gap**

E-procurement is a useful tool that companies can use to encourage accountability, efficiency, transparency, and value for money in the acquisition of goods, services, utilities, and works, according to the examined literature from both the global and local perspectives. These writings have improved knowledge of purchasing and commonly used goods and services. However, the majority of research have not examined how e-procurement may affect the adoption of common goods and services outside of Zambia, leaving a knowledge gap. The studies carried out in Zambia did not pay attention to the elements involved in the adoption and application of electronic procurement. Most relied on researching the elements influencing e-procurement acceptance, the efficacy of e-procurement, obstacles to e-procurement implementation, and the impact of e-procurement on service delivery. None of the studies that were analyzed evaluated how e-procurement affected the deployment of common goods and services. This revealed a void in the literature; hence, it was necessary to evaluate how e-procurement will affect the deployment of common goods and services. Therefore, by examining the factors connected to the adoption and use of electronic procurement, our study filled that gap in the literature.

## **2.9 Chapter Summary**

The theoretical and conceptual underpinnings of this study, together with an empirical review, were covered in this chapter. The theories that served as the foundation for the study have been examined. The conceptual framework and an empirical analysis related to the study are presented as the chapter's conclusion. The approach that will be utilized to answer the research questions in accordance with the study objectives will be described in detail in the following chapter. The target demographic and the methodology for sampling will be specified. It will also provide a description of the information-gathering procedures

## **CHAPTER THREE RESEARCH METHODOLOGY**

### **3.1 Introduction**

The conceptual framework and ideas pertinent to this investigation were covered in the preceding chapter. The goal of this chapter is to emphasize the plan and procedure utilized to gather the necessary data. It provides in-depth explanations of the research design, data collection techniques, sampling strategy, research instrument, measurement constructs, data processing, and data analysis techniques.

Research methodology is described as the methodical, scientific processes used to arrive at study results and conclusions that are used to assess knowledge claims (Cooper and Schindler, 2006). The design of the methodology is thus determined by the angles from which the researcher approaches the issue. Additionally, based on the nature of the study challenge, academic research can be divided into other types of categories. According to Yin (1994), there are three main types of research: exploratory (problems are uncertain), descriptive (problems are known), and explanatory (clearly defined problem).

This study, which is based on a case study of several councils in Zambia's southern province, examines factors that influence the adoption and use of electronic procurement in councils, as was previously indicated. Data was therefore required to assess the factors influencing the adoption and utilization of electronic procurement in several councils in Zambia's southern province. In this study, a mixed method was used to examine the sample population using correlation analysis and descriptive statistics.

### **3.2 Research Design**

The broad strategy for addressing the research question is referred to as the study design (Saunders, et al., 2003). This study was exploratory because it sought out fresh perspectives on the subject at hand. The quantitative approach and the qualitative approach are the two main methods utilized in research. The two methods are not incompatible with one another, it should be mentioned (Cresswell, 2009). The mixed-approach research strategy was employed in this study.

According to Creswell (2009), quantitative research entails asking for people's ideas in a structured manner in order to gather data and statistics that will serve as your guide. It is

crucial to survey a sizable number of people and make sure they are a representative sample of your research in order to obtain accurate statistical results. He goes on to say that gathering numerical data and utilizing mathematically based tools, notably statistics, to examine it is how the occurrences are being explained.

A case study is a type of research methodology that produces a thorough, multifaceted understanding of a complex problem in its actual setting. It is a well-known research strategy that is widely applied in a range of fields, especially the social sciences (Akhtar, 2016). This research approach was suitable because, in a case study, the researcher needed to integrate a qualitative element with quantitative elements. This aided the researcher in achieving the study's principal goal.

### **3.3 Research Approach**

For this study, a survey method was used. According to Saunders et al. (2003), the deductive technique is typically connected with a survey strategy. Because a survey enables a researcher to get a significant amount of data from a sizable population, it was used. It is simpler to compare data since surveys standardize their data. Another benefit of this approach is that it is quite simple to describe and comprehend. Furthermore, they claim that employing a survey strategy gives the researcher greater control over the research process and, in the event that sampling is used, makes it possible to produce results that are representative of the entire population at a lower cost than collecting data for the entire population (Saunders, et al., 2003).

Quantitative research entails using statistical, mathematical, or computational approaches to conduct a systematic empirical analysis of observable phenomena (Kasim and Hudson, 2010). Creating and using mathematical models, theories, and/or hypotheses that are connected to phenomena is the aim of qualitative research, in contrast. Measurement is at the core of quantitative research because it provides the critical connections among empirical observation and mathematical explanation of quantitative relationships (fall, 2010). Contrarily, quantitative data refers to any numerical information, including statistics and percentages (fall, 2010).

The study used a mixed-methods approach to research (both quantitative and qualitative). According to Bacon-Shone (2015), quantitative approaches entail gathering, analyzing, interpreting, and writing study results utilizing a variety of designs, such as survey and experimental research design. He continues by saying that quantitative research is a way to verify objective hypotheses by looking at links between variables that can be measured by equipment. This allows for the statistical analysis of numbered data. This method was helpful since it reduces bias, needs little time for data collecting, and quickly covers a wide number of groups. A qualitative method is a flexible research strategy intended to record participant experiences in their natural environments. Because it is flexible, it enables the researcher to take into account the field's unexpected developments. Instead of the researcher's opinions, ideas, understanding, and value judgments, the research approach asks the researcher to gather facts and portray participant's own experience. It also tries to provide comprehensive answers to queries like "when," "who," "why," "what," and "by whom." The mixed research approach was adopted as a result since it enabled the researcher to gather both narratives and numerical data.

### **3.4 Target population**

The study was conducted at some councils in the Southern Province of Zambia. These include; Livingstone council, Monze and Choma Council.

The target population is the complete group of people in which the researcher is interested (Easton & McColl, 1997). The study population was a subset of the target population that the researcher had selected for the study. The target population is the group in whom the researcher was interested in conducting this investigation. The target population, which the researchers desired for this study to be generalized, is the same as the theoretical population. 58 employees from the councils of Livingstone, Choma, and Monze in Zambia's southern province made up the study's population.

#### **3.4.2 Sample Frame**

A list of the things from which the sample is to be drawn makes up the sampling frame (Kothari, 2004). From the Livingstone, Monze, and Choma council offices, representative population samples were gathered.

### 3.4.3 Sampling Technique

The respondents for this study were chosen using a purposeful sampling technique. Purposive sampling, according to McCombes (2019), is a type of non-probability sampling in which researchers make their own decisions about which people of the population to include in their study. For proper selection and recruitment of eligible participants using this sampling technique, researchers must be aware of the objectives of their research. The researcher can only include in the study those people in the population who are thought to be information-rich cases thanks to the deliberate sampling technique. Given that we specifically sought for respondents in the southern province council offices, purposeful sampling was appropriate for our study.

### 3.4.4 Sample size

Churchill (1987) defined a sample as a collection of people chosen at random from a big population. Technically, the sample size is decided by the technique of the study, the level of precision and confidence that should be placed in the findings, and the features of the target populace. Because of this, it's crucial to keep in mind that there isn't just one perfect way to determine sample size (Singh, 2006).

Thus, the sample size for the study was determined using Taro Yamane's statistical technique (Yamane, 1967), assuming a 95 percent confidence level and a 5 percent margin of error. Using Yamane's technique in this study.

$$n = 51 / 1 + 51(e)^2$$

$$n = 51 / (1 + 51 (0.05)^2)$$

$$n = 51 / (1 + 51 (0.0025))$$

$$n = 51 / 1.1275$$

$$n = 45.5$$

$$n=45$$

**Table 3.1 number of participants**

<b>Institution</b>	<b>Number of participants</b>	<b>Total</b>
Monze council office	10 employees in the procurements office and 5 from finance department	15
Livingstone council office	10 employees in the procurements office and 5 from finance department	15
Choma council office	10 employees in the procurements office and 2 from finance department	15
<b>Total</b>		45

### **3.5 Data collection techniques**

For this investigation, secondary and primary data were both utilized. Questionnaires and observations were used to gather the data. According to Orodho (2004), a questionnaire is a well-crafted tool for data collection in accordance with the definition of research questions. The questionnaires are provided because they are appropriate for this kind of research. According to Mugenda & Mugenda (1999), questionnaires are frequently employed to gather specific data on the population.

Both closed-ended and open-ended questions are included in the questionnaire. While open-ended questions allow for a deeper level of response, the closed-ended questions supplied data that is simple to compute and evaluate while improving the quality of the data gathered.

### **3.6 Secondary data**

The secondary data was gathered through peer assessment of the study's subject matter, published reports, and other earlier research articles.

Why didn't you pilot your data collection instrument as I requested in the last submission? The main advantage of pilot testing is to find issues before launching the complete survey. Pilot testing is to evaluate each question's reliability. It is worried about whether the question is obtaining the data that it is meant to measure.

### **3.7 Primary data**

The primary data was gathered via questionnaires with both closed-ended and open-ended questions from the chosen council offices in the southern province, especially Livingstone, Choma, and Monze. Without the researcher's assistance, the respondents filled out the questionnaires. The questionnaires were given out by hand to the sampled respondents, who were all conveniently positioned in different government ministries.

### **3.8 Measurement of variables**

measuring different factors Measurement is the systematic attribution of numbers to things or events. Nominal, ordinal, interval, and ratio scales are the four tiers of measuring scales (Hair et al., 1998). In accordance with the body of existing literature, a questionnaire was used. A continuous Likert scale with a range of 1 to 5 was used to measure each variable. There were four independent factors included in the study: stakeholder readiness, IT infrastructure accessibility, and staff readiness. Use and adaptation of e-procurement were the dependent variables.

#### **3.8.1 Independent variables**

A scale modified from Dangol and Maharjan was used to measure the independent variables (employee preparedness, infrastructure availability, and stakeholder readiness) (2018)

### **3.8.2 Dependent variable**

Adapted constructs from Dangol and Maharjan were used to measure the dependent variable (e-procurement adaptation and usage) (2018).

### **3.9 Data Analysis**

The data was analyzed using the inferential and descriptive statistics technique in an effort to condense and describe information gleaned from respondents. SPSS was used for data analysis. The data were analyzed statistically using confirmatory factor analysis, hierarchical regression, and partial correlation analysis. The reliability of the chosen scales to measure the dimensions and the construct validity were assessed using factor analysis. Sometimes it is used to create multiple-item scales that can be used to gauge various structures (Deepak and Neena 2011). Regression was used to determine the magnitude and direction of the link between the variables, and correlation was used to determine the influence of one variable over another.

### **3.10 Ethical considerations**

Participation in the study is contingent on individual permission. Nobody who responded was forced to provide answers. Respondents received assurances that, should the need arise, information would be handled confidentially. The information gathered was utilized exclusively for this research and will not be disclosed to any other party that might need it to conduct a related study. No financial compensation was offered to the respondents in exchange for their participation in the study, and introductory cover letters were sent with the surveys to identify the researcher and explain the goals of the investigation.

### **3.11 Chapter Summary**

However, each questionnaire in this study was customized to the goals of the investigation, and the level of secrecy and ethical standards were indicated explicitly and unmistakably.

The surveys were freely completed by the respondents. Additionally, the researcher made sure that responses were anonymous and that respondents' identities were never revealed. The study also followed ethical guidelines by keeping the identities of those who provided data sources a secret.

## CHAPTER FOUR DATA PRESENTATION AND ANALYSIS

### 4.1 Introduction

The preceding chapter highlighted the approach and methods utilized to collect the necessary data, and the subsequent chapters have established the framework for this research study. The primary chapter of the study, it presents the analysis and interpretation of the information gathered. Tabulation in Microsoft Windows Excel and Statistical Packages for Social Sciences were used to analyze the data (SPSS).

Data from the study findings, also known as primary data, are presented, interpreted, and analyzed in this chapter. The information used came from surveys sent to the procurement officers, transportation officers, and accountants of the three council offices in the southern province that were chosen at random, specifically Choma, Livingstone, and Monze. Descriptive statistics, including percentages, frequencies, and tables, were used to analyze the data in the study. In order to present the data, percentages were aggregated. In accordance with the study's goals and research questions, the information was presented and discussed. The response rate to the surveys that were distributed was 15% rather than 100%. The respondents' busy schedules may have contributed to the low response rate.

### 4.2 responses to Questionnaires from the theme: factors associated with the adoption and usage of electronic procurement in council: a case study of southern province, Zambia

**Table 4.2.1 Has the councils adopted e-procurement?**

Response	Frequency	Percentage
yes	45	100

No	0	0
<b>Total</b>	<b>45</b>	<b>100</b>

**Source: field data**

Table above shows that in the three councils 45 out of 45 respondents agreed to the adoption of e-procurement and scored 100 %. Indicating that e-procurement has been adopted.

**Table 4.2.2. Have the councils started using e-procurement?**

Response	Frequency	Percentage
yes	0	0
No	45	100
<b>Total</b>	<b>45</b>	<b>100</b>

**Source: field data**

Table above shows that in the three councils 45 out of 45 respondents disagreed to usage of e-procurement and scored 100 %. Indicating that e-procurement is not being used.

**Table 4.2.3 If 'NO' are there some factors affecting usage and adoption of e-procurement?**

Response	Frequency	Percentage
yes	21	46.6
no	6	13.33
Not sure	18	40
<b>Total</b>	<b>45</b>	<b>100</b>

**Source data: field data**

According to the data in the table above, 46.6% of respondents believe that there are actually variables influencing the adoption and usage of e-procurement in the council offices of Southern Province, 13.33% disagree, and 40% were unsure.

**Table 4.2.4 If ‘Yes’ are employees utilizing employees utilizing e-procurement?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	0	0
no	18	40
Not sure	27	60
<b>total</b>	<b>45</b>	<b>100</b>

**Source: field data**

from the table previously. Regarding the use of e-procurement, in accordance with question 1: According to the responses, e-procurement is not being used by 40% of respondents, and another 60% are unsure whether it is being used at all.

**Table 4.2.5 Will e-procurement really reduce the cost in the procurement department?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	30	66.66
no	15	33.33
Not sure	0	0
<b>total</b>	<b>45</b>	<b>100</b>

**Source: field data**

on the table above. Regarding the procurement department's costs coming down: Only 15% of respondents say that e-procurement won't cut costs in the procurement department, while 30% are certain and represent a 67 percent certainty.

**Table 4.2.6 Is e-procurement shortening the procurement process?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	30	66.66
no	0	0
Not sure	15	33.33
<b>total</b>	<b>45</b>	<b>100</b>

**Source: field data**

This demonstrates. Regarding the procurement process being shortened by e-procurement: Only 10 respondents gave a complete answer indicating that e-procurement has shortened the procurement process, scoring 66.66 percent, while 5 respondents were really unsure, scoring 67 percent.

**4.2.5 Are the suppliers helping government to implement e-procurement?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	0	0
no	45	100
Not sure	0	0

<b>total</b>	<b>45</b>	<b>100</b>
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**Source: field data**

from the table previously. Regarding the vendors assisting the Zambian government with the implementation of e-procurement: The score line was 0% because no respondents agreed that suppliers are assisting the government in implementing e-procurement.

**Table 4.2.6 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?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	15	33.33
no	0	0
Not sure	30	67
<b>total</b>	<b>45</b>	<b>100</b>

**Source data: field data**

as shown above. Regarding the government's participation in the adoption of e-procurement in accordance with the 7th National Development Plan on e-governance through ZPPA or SMART Zambia: Only 15 respondents (or 33%) agreed with the government's engagement in the adoption of e-procurement, while 30 respondents (or 67%) were unsure.

**Table 4.2.7 Is the enough information technology infrastructure to implement e-procurement?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	9	20
no	27	60
Not sure	9	20
<b>total</b>	<b>45</b>	<b>100</b>

**Source field data**

as shown above. Regarding the availability of information technology infrastructure in e-procurement adoption and usage, only 15 respondents—or 33 percent of the total—agreed, while 00 respondents—or 67 percent of the total—disputed the availability of such infrastructure.

**Table 4.2.8 Is there enough staff training in readiness for adoption and usage of e-procurement?**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
yes	18	40
no	27	60
Not sure	0	0
<b>total</b>	<b>45</b>	<b>100</b>

**Source: field data**

as shown above. Regarding staff training in readiness for adoption and utilization of e-procurement, only 18 respondents agreed, representing 40% of the total, while 27 respondents disagreed, representing 60% of the whole.

**4.3 stakeholders perceived readiness for adoption and usage of e-procurement.**

The study's analysis of stakeholder perceptions of e-procurement adoption readiness. Since the five-point scale demonstrates such a relationship, it was utilized in this study to

examine the variables. The following is the 5-point Likert scale: Strongly agreeing is indicated by a score of 5, whereas strongly disagreeing is indicated by a score of 1. According to the mean values, a mean score of 1 to 1.8 denotes a very low score, 1.9 to 2.6 a low score, 2.7 to 3.4 a moderate score, 3.5 to 4.2 a good score, and 4.3 to 5.0 a very high score. The perception of government readiness for the implementation of e-procurement for the purchase of everyday goods is shown in the table below.

With a mean score of 3.62, the majority of respondents agreed that "The company size in terms of expertise, financial, and human resources support the adoption and usage of e-procurement," while others felt that "The existing I.T infrastructures is sufficient to improve e procurement adoption." The item "The current legal framework is beneficial for the adoption and utilization of e-procurement" received a mean score of 3.596 from respondents, and a mean score of 3.51 indicated that respondents agreed with it to some extent. Additionally, respondents who gave the item "I underwent training related to e-procurement" a mean score of 3.22 somewhat agreed with it. This suggests that respondents are prepared to use e-procurement for the purchase of everyday commodities.

**Table 4.3: The perceived stakeholder’s readiness for e-procurement adoption and usage.**

<b>Statements</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
The existing I.T infrastructures is sufficient to enhance e-procurement adoption	<b>15</b>	<b>3.5955</b>	<b>1.28558</b>
The firm size in terms of experience, financial and human resources enable the adoption of e-procurement	<b>15</b>	<b>3.6180</b>	<b>1.25685</b>

The current legal framework is favorable to the adoption of e-procurement.	15	3.5056	1.34944
Undergone training related to e-procurement usage	15	3.2247	1.52817

Source: field data

The procurement Manager for the southern region had this to say during the interview;

*“The challenges preventing the adoption and use of e-procurement must be overcome by all parties involved, including the user department, suppliers, the government, and regulators like ZPPA, they added. Once these obstacles are successfully overcome, the nation will make significant progress toward full application of e-procurement, particularly in public procurement (source, field data, 2022).”*

**4.4 The Barriers towards E-Procurement Adoption and usage**

Regression analysis was utilized in the study to identify the obstacles to e-procurement adoption and utilization. Model overview is shown in Table 4.9 below. R-squared was included in table 4.9 underneath the model's measured goodness-of-fit. This statistic displays the proportion of the dependent variable's variance that the independent variables account for collectively. On a handy 0–100% scale, R-squared quantifies the strength of the link between the model and the dependent variable. This study's R squared value of 53.4 percent indicates that the model and the dependent variable are related. Durbin Watson's value of 1.923 suggests a positive autocorrelation.

**Table 4.4 : Model Summary**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin Watson
1	.758 <sup>a</sup>	.525	.534		2.06572	1.923

Regression analysis can be used to understand the motivations behind the installation of e-procurement based on Table 13 above and the value of R-squared. Poor technological infrastructure, financial constraints brought about by alleged high startup and operating expenses, unsupportive governmental regulations, rigid organizational cultures, and a lack of managerial support were all independent factors included in the model. As shown in Table 4.10 below, there is a significant positive link between a lack of technological infrastructure and the adoption of e-procurement because the p-value is less than the level of significance of 0.05. It has been demonstrated that the adoption of e-procurement is negatively impacted by weak technological infrastructure by 0.059.

The adoption of e-procurement is significantly positively correlated with financial constraints brought on by perceived high initial and ongoing expenses, as shown in Table 4.14 below, where the p-value is less than the significance level of 0.05. It was discovered that the perceived high initial and ongoing expenses of e-procurement have a 0.167-percent impact on adoption and utilization.

As shown in Table 4.14 below, there is a significant positive link between the adoption of e-procurement and unfavorable government policies because the p-value is less than the threshold of 0.05. It has been demonstrated that unfavorable government policies have a 0.045 effect on the adoption of e-procurement.

Additionally, Table 4.14 below demonstrates that there is a strong positive association between organizational rigidity/culture and adoption of e-procurement, with the p-value being less than the level of significance of 0.05. It has been demonstrated that organization rigidity/culture has a negative impact on e-procurement.

Additionally, Table 4.3.2 below shows that there is a significant positive link between the adoption of e-procurement and a lack of management support because the p-value is below the threshold of significance of 0.05. Lack of management support has been shown to have a 0.016 effect on the adoption of e-procurement.

#### **Table 4.3.2: Regression of the barriers for adoption of e-procurement**

Variables	Un-standardized Coefficients			sig
	B	Std. Error	Beta	
(Constant)	1.700	.241		.690
Poor technological infrastructure	.059	.074	.118	.028
Financial constrain due to perceived high initial and running costs	.167	.157	.313	.002
Unsupportive government policies	.045	.102	.090	.019
Organization inflexibility/culture	.035	.175	.067	.042
Lack of management support and training	.016	.093	.034	.004
<b><i>Dependent Variable: Adaption and usage of E-procurement</i></b>				

#### 4.4 Chapter summary

Here, the study's data analysis and interpretation are given. It was broken down into three main sections. In the first stage, the study's variables were put to the test for dependability. Here, we looked at the effectiveness of descriptive statistics and all of the variables that influence it (infrastructure availability, stakeholder readiness employee readiness, adaption and usage of e-procurement). Research variables were the emphasis of the third section. Now the theory had to be tested in the real world! In the next section, we'll look at the findings, which will include a summary of the study's findings.

## **CHAPTER FIVE: Discussion of the Findings**

### **5.0 introduction**

The preceding chapter described how to use SPSS to analyze data and how to report on the findings of that analysis. The findings are discussed in this chapter. The purpose of this study was to examine the factors that influence the adoption and use of electronic procurement in councils: a case study of certain councils in Zambia's southern province.

### **5.1 the stakeholders are for the adoption and usage of e-procurement.**

5.1.2 The perceived stakeholder's readiness for e-procurement adoption and usage

According to the study, "Perceived Readiness for E-Procurement Adoption and Usage was Influenced by Various Factors" such as "financial and human resources enable the adoption of e-procurement," "existing I.T infrastructures are sufficient to enhance e-procurement adoption and usage," and "the current legal framework is favorable to the adoption of e-procurement." The results support the findings of a study by Nnafie (2017), who claimed that the procurement environment of an institution can be accessed in areas like procurement structure, whether it is centralized or decentralized, the factors driving e-procurement adoption, and e-procurement support obtained from relevant stakeholders. It is vital to take both national and international jurisdictions into account while discussing the legal environment. Due to a lack of a supportive legal and regulatory

environment, many e-procurement attempts fail, for example due to security concerns with electronic payments. For instance, in Zambia, e-procurement was not included in the former Public Procurement Act of 2004 and its regulation of 2005, which posed a barrier to e-procurement readiness. The economic environment examines the forces at play in the supplier and buyer markets. If there is a significant demand for e-procurement among the buyers, the provider will be enticed to embrace it; otherwise, the supplier would miss the opportunity to conduct business online.

The organizational environment, he continued, consists of several aspects that determine whether any institution is ready to use e-procurement. This includes anticipated levels of acceptance, employee competency and management's openness to change, and financial capacity to pay for the costs of setting up and running the system. The organization's technological infrastructure, the technical expertise of the workforce, standardization issues, and compatibility issues are the most crucial factors to consider when determining the readiness level.

Additionally, if the supplier has received initial training on how to use the system, they will be prepared to undertake e-procurement, which will lessen the system's perceived technical complexity (Gunasekarana and Ngai, 2017). It is simple to implement adjustments toward the use of e-procurement when working with knowledgeable suppliers. Additionally, it's critical to integrate the supplier and buyer systems.

## **5.2 The barriers towards e-procurement adoption and usage**

### **5.2.2 barriers towards e-procurement adoption and usage.**

The study found that there were a number of obstacles to the adoption of e-procurement. The results are consistent with the research by Gunasekarana and Ngai (2017), who found that top management commitment and support are essential for securing resource commitment, overcoming change resistance, and creating an organizational climate that encourages the adoption of technological innovation. The adoption and use of e-procurement may result in significant changes to the procurement process, including the elimination of manual work, the requirement for data sharing security, financial implications, and complexity in supply chain partner integration. This shows how the current business processes need to be reengineered.

Andrade (2017) identified the perceived obstacles that are thought to be preventing suppliers from adopting e-Procurement. This involves exerting price pressure on suppliers to a point where they are unable to invest in new technologies, product development, facility upgrades, or the addition of more productive capacity. High implementation and maintenance costs, a lack of standards for data interchange and interoperability, a lack of legal backing, a lack of information security, as well as a lack of expertise and understanding about e-procurement solutions, are other issues.

According to Abramson (2015), in order to maintain e-procurement as an effort and reap its potential rewards and benefits, the following issues must be handled. Financial issues; Since the initial costs for installation are very high and include employee training and similar expenses, most government offices encounter significant difficulties in locating the financial resources necessary to adopt e-procurement. As a result, they are unable to keep up with modern procurement technology.

### **5.3 Chapter summary**

In conclusion, it is noteworthy that in this chapter, the outcomes of the research were discussed and it can be established that the highlighted factors are affecting the adoption and usage of electronic procurement in councils.

## **CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS.**

### **6.1 Introduction**

The study's conclusions, suggestions, and critical assessment are presented in this chapter. The use of e-procurement for the purchasing of everyday commodities has been the main focus of this study. Based on the research's findings, this chapter makes a conclusion and offers suggestions for potential fixes to problems that have been identified.

### **6.2 Conclusion**

The study's goal was to evaluate the adoption of e-procurement for the purchasing of everyday commodities. The study demonstrates that depending on the type of firm adopting it, e-procurement adoption can ensure a number of benefits. On the supply side, it was discovered that suppliers believed they would benefit more from better information flow and management, more business opportunities as a result of increased transparency, lower transaction costs, faster and more accurate order processing, lessening the need for human effort, and process efficiency.

The readiness of the stakeholders, such as the government and employees, to adopt and use e-procurement was found to be low due to a lack of financial and human resources, an inadequate IT infrastructure with no reliable internet connection, the lack of support for the e-procurement adoption process from relevant stakeholders, and staff lacking in technical expertise and skills to adopt e-procurement. Along with the disadvantages, the fact that firm members valued e-procurement adoption for a variety of reasons and had a positive attitude toward it helped to suppliers' readiness.

Additionally, the council's organizational culture, particularly its policies and processes, were designed to discourage interest in e-procurement adoption and use. In general, the study found that the council is not yet ready to implement and use electronic procurement, both in terms of internal resources and certain external variables. On the other side, it was discovered that suppliers were prepared to switch from paper-based to computerized forms of procurement.

### **6.3 Recommendations**

On the basis of the study's findings and the drawn conclusions, the following recommendations were made;

- I. Organizations that want to implement e-procurement must ensure that there is adequate funding available because the study found that a lack of funding is one of the obstacles to doing so.
- II. The government must allocate sufficient funds to assist organizations in putting the e-procurement system in place
- III. Technology has a significant impact on e-procurement. To meet the needs of employees, institutions must create and maintain a robust IT infrastructure.
- IV. Through the provision of dependable access hubs and education, the government must make an effort to guarantee that the service providers (suppliers) at the other end of the continuum are properly equipped.
- V. In order to improve the implementation of IT, organizations must provide proper IT education for their staff.
- VI. In order to begin incorporating components of technology-aided procurement data collection and treatments, the government should work to review the Procurement Act's legislative and regulatory framework to include elements of e-procurement in the procurement process. This will lessen the degree to which the present paper-based procurement system is plagued by data/technology, process and procedure circumvention, and compliance-related issues.
- VII. It is further recommended that procurement entities act independently and free from any political interference that would impair their performance. When there is a change in government or a government policy directive, the procurement process often takes longer. This leads to the waste of public resources, including cash, materials, and time, which, if the projects were finished on schedule, could produce the desired benefits and impact. As a result, it is anticipated that the development of an independent corporate procurement unit, which will be supported by technology, will enable public procurement to be more cost-effective.
- VIII. The study's information revealed that several officers from various units within the entities contacted were involved in procurement, indicating that these entities lack

E Procurement Units (EPUs). Therefore, it is advised that procurement companies establish up E-Procuring Units to be supervised by staff who have the required knowledge, training, and competences in procurement.

#### **6.4 Limitation of the study**

This approach effectively limits and confines the findings on the role of microfinance in empowering women through income generation to this particular case. Nevertheless, it does give us some insights that are worth sharing and from which lessons can be learned. Since this research is partial fulfilment for my academic requirement, I accept that the approach was worthwhile for the purpose of this study and in the near future there is need to conduct wide based research that will draw lessons from a number of districts than a localized study. This research was largely qualitative in nature, with some quantitative data gathered in order to build a profile of the beneficiaries. In which case, I recommend that further studies with some further quantitative input or mixed methods be used. Despite the mentioned limitations above, I profoundly believe I have used this research to lay a foundation for future investigations on the subject of village banking as a microcredit facility empowering women through income generation.

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Appendix

**Questionnaire Serial number.....**



## **QUESTIONNAIRE**

Dear Respondent

My name is Bernadette chilemo

As a master's student at the University of Lusaka, my research on the factors influencing the adoption and use of electronic procurement in councils—specifically, a case study of

Southern Province, Zambia—focuses on procurement logistics and supply chain management.

Your assistance is essential to the outcome of the study. We sincerely request your answers to the following questions as a result. All data collected will be kept completely confidential and used only for academic purposes.

Please answer the questions truthfully by either checking the appropriate boxes or leaving blanks.

Questionnaire No.....

Thank you for your participation.

**Instructions:**

1) there are **TWO** (2) sections in this questionnaire. Please answer ALL questions in ALL sections.

2) Completion of this form will take you approximately 10 to 15 minutes.

3) Please feel free to share your comment in the space provided. The contents of this questionnaire will be kept **strictly confidential**.

**Section A: Demographic Profile**

Please indicate (/) in the appropriate information about yourself. Each question should only have ONE answer. All responses are strictly confidential.

1.   Gender:

Male

Female

2.     Age:

26- 30

31-35

36-40

41 and above

Management level

55

Lower level managers'  Middle level managers' Top level managers

**Section B: independent and dependent variables**

Please indicate the extent to which you agree to the following statements (1= strongly

Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5=Strongly Agree)

No.	e- adoption and usage	1	2	3	4	5
1	Efficiency of the public procurement will grow after e-procurement adoption					
2	Implementation of e-procurement has increased efficiency					
4	There are challenges in implementation of e-procurement					
5	There is continuous implementation of e-procurement					
6	There is ease access to knowledge about e-procurements processes and acts.					

No.	Infrastructure for e-procurement process	1	2	3	4	5
1	Stakeholders are fully ready for implementation					
2						

3	Most offices are ready for implementation but stake holders have not yet delivered					
4	Some offices have the equipment already but they are just waiting for implementation,  Council offices already have a set date for implementation are just waiting for the date.					

No.	personnel competence	1	2	3	4	5
1	Workers have little procurement process skills					
2	Business to manage procurement process at remote levels.					
3						
4	The level of education at certain levels makes it impossible to handle procurement process  Capacity of employing an expert at every is not sufficient					

## **APPENDICES**

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

Benefits of e-procurement have long been recognized. Improved management and sourcing data, better compliance, and user satisfaction are a few examples. While many public organizations are still in the planning stages, e-procurement has been embraced in many private companies. There have been many discussions regarding e-procurement systems, but little has been written about best practices for removing barriers to adoption, particularly in public enterprises. To provide best practices for all of us to follow, this guideline combines the experiences of numerous top organizations. This recommendation will assist businesses and individuals in selecting the most affordable set of electronic tools to address business-related concerns. In order to promote national financial developments, the private sector is crucial. This is evident in a variety of areas, such as labor distribution and absorption, poverty reduction, training, and rethinking enterprise capabilities.