



A framework for the implementation of an e-procurement system in local government: A case study of Harare City Council

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DECLARATION

I, **Tafadzwa Moyo**, declare that this study: **A framework for the implementation of an e-procurement system in local government: A case study of Harare City Council**, is my own unaided work and it has not been submitted before for any degree or examination at any university by me or any other person. All sources used or quoted in this dissertation have been duly cited and acknowledged by means of complete references.

Signature

Date

DEDICATION

This study is dedicated to my father Tobias Moyo, whose words of encouragement and push for tenacity sustained me in undertaking this project.

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I thank the Almighty God for his mercies upon my life, for giving me the strength and endurance to embark on this journey till completion. Indeed, God's promises are only YES and Amen.

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I would like to thank officials from the Procurement Regulatory Authority of Zimbabwe, the Ministry of Information and Communication Technologies, Postal and Courier Services, and the Harare City Council for availing themselves to participate in the research. I extend my thanks as well to the academic personnel who participated in this study. I would like again to thank the participants for making follow-ups on my progress in undertaking this research. To all those who have assisted me in various ways, cheered me on, and counselled me, I am grateful that you were part of this journey.

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ABSTRACT

Public procurement remains one of the public administration functions often riddled with misgovernance and this has a detrimental effect on service delivery. This is true even though the 21st century has witnessed a significant growth of e-government tools which have the potential to revolutionise and transform governance. E-government tools like electronic procurement systems offer opportunities for improved procurement governance and efficient procurement outcomes, yet their implementation has remained slow, especially in the developing country context across all government levels. The implementation of an e-procurement system has also become a challenge at Harare City Council as the metropolitan continues to grapple with procurement misgovernance deriving from conventional methods of procurement. This is because e-procurement remains an underexplored initiative in the public sector, especially in developing countries. Evidence in the literature suggests that what contributes to this is the lack of knowledge on the key activities involved in e-procurement implementation since most organisations fail to interpret the initial adoption decision into implementation.

The study utilised a qualitative research approach by adopting key informant interviews and document searches to aid an investigation of the implementation of an e-procurement system at Harare City Council. A sample of 30 participants was drawn to participate in key informant interviews and these included PRAZ, Ministry of ICT, Postal and Courier Services, Harare City Council, and Combined Harare Residents Association officials. Document search was used to investigate the implementation experiences of centralised and decentralised e-procurement systems from nine (9) different countries. Thematic and content means of data analysis were used to draw inferences from the data collected. Due to the council's poor performance on the majority of the e-readiness indicators derived from the study, the study established low levels of e-procurement readiness at Harare City Council. The study concluded that low e-readiness levels derail the prospects of successful e-procurement implementation at the council. Additionally, the study established that certain unique characteristics of an organisation interact closely with critical e-procurement factors to influence e-procurement implementation outcomes. The study revealed that the challenges faced in implementing an e-procurement system at Harare City Council are closely tied to the implementation context and these

included a lack of central government support, technology immaturity, and unreliable power supply among others. In consideration of the research findings, the study proposes a framework that serves as a guideline for the implementation of e-procurement in local government.

Keywords

E-procurement, local government, digitisation, innovation, context, public procurement, implementation, Harare City Council, e-government

ACRONYMS AND ABBREVIATIONS

ADB-Asian Development Bank

CHRA- Combined Harare Residents Association

DEG- Digital Era Governance

DOI- Diffusion of Innovation

EDI- Electronic Data Interchange

ERP- Enterprise Resource Planning

HCC- Harare City Council

ICTs-Information Communications Technologies

PMU-Procurement Management Unit

PRAZ-Procurement Regulatory Authority of Zimbabwe

TOE-Technology Organization Environment framework

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CHAPTER ONE: INTRODUCTION AND GENERAL ORIENTATION OF THE STUDY

1.1 BACKGROUND OF THE STUDY

Electronic procurement is usually part of a country 's larger electronic government effort of ensuring seamless end-to-end Information and Communication Technologies (ICTs) and internet-driven procurement processes. Thus, ICTs are increasingly becoming cornerstones for government functions and most importantly the procurement function (African Development Bank, 2016). Over the years public procurement expenditure has significantly risen which has pushed organisations to adopt e-procurement. Estimated public procurement accounts for 1/5 of global Gross Domestic Product (GDP) with relatively small efficiency leading to significant benefits (World Bank, 2016:45; Thai, 2001). However, in the context of developing economies, these figures range from 20%- 70% (World Bank, 2012). Therefore, underscoring the significance of public procurement, digitilisation of e-procurement will sustain the desired transformative effect of e-government in both developing and developed countries (Thai, 2008:23).

The Organisation for Economic Cooperation and Development (2013:71) underscores that the advent of new technologies has led the world into business transactional networks, as such many governments are now looking for new avenues to ensure the provision of more competitive services and products to the people. Asogwa (2013) contends that several countries across the globe are adapting their public sector procedures and systems to align well with the changing environment, especially in the arena of Information Technology (IT). According to Roman and McCue (2012:215) citing Hardy and Williams (2008), in the milieu of the drive to reconstruct governments typically couched under the rubric of "doing more with less", public procurement was delineated as one of the areas that can benefit from reinvention. Therefore, increased digitilisation efforts, have provided as an opportunity for organisations to modernise their procurement practices for efficient outcomes. Schmidt *et al.* (2015:13) opined that particular focus has been on the incorporation of smart digital IT systems to support an organisation's procurement function procedure. Zhou *et al.* (2015:270) add that e-procurement has developed to

involve a range of functions to strategically and reintegrate suppliers and buyers' business processes into a unique digital environment.

More so, Neef (2001:2) underscores that e-procurement concept represents a significant development in the employment of e- business tools across the supply chain management. It mirrors an application of e-commerce technologies to support a buying organisation's purchasing function (Ilhan & Rahim, 2020:183). Hence, e-procurement systems have proven within various public sector organisations to be effective tools for the institutionalisation of procurement related reforms and establishment of a transparent procurement environment (United Nations, 2016; Croom & Brandon – Jones, 2005; Moon, 2005). Scholarly research in e-procurement has established that anticipated cost efficiency gains are key motivators towards implementation (Neef, 2001:183). A study undertaken by Croom and Johnston (2003:547) established two elements of cost savings which are internal (transaction) costs and external purchase costs (price) derived from e- procurement deployment. Yen and Ng (2003) support cost efficiency claims from literature by establishing four sources of cost benefit for an organisation which include reduction in cost arising from digitilisation of catalogues, errors in order transmission, reduction in inventory and in suppliers marketing costs. In light of these justifications, there has been an increased trend towards use of ICTs and the internet in the procurement of goods and services within organisations.

The increased trends towards the application of digital tools to reengineer the organisational procurement function are built on the Digital Era Governance model (DEG). Dunleavy *et al.* (2006) contend that in DEG, the government tries to integrate key roles like e- government development within the public sector and relentlessly exploit digitilisation to cut costs and improve services. The DEG model is perceived to be a quasi-paradigm of the New Public Management theory (NPM) (Dunleavy *et al.*, 2006). Margetss and Dunleavy, (2013:2) postulate that this argument does not imply that provisions of NPM are no longer being implemented; however, they are occasionally revived in some new contexts. The NPM marginalised technological changes in favour of a managerialist emphasis on organisational arrangements and corporate leadership (*ibid*, 2013). However, the post-NPM embraces reforms

seeking to improve coordination vertically between government and other actors and horizontally in terms of inter-agency coordination (Christensen, 2012:1; Pollitt & Bouckaert, 2017). The DEG model which is a key theoretical paradigm within the post-NPM discourse is premised on three themes which are digitilisation, needs-based holism and reintegration. Digitilisation entails the adaptation of the public sector to completely embrace and embed electronic service delivery at the heart of the government business model (Margetts & Dunleavy, 2013). Needs-based holism is centred on implementing an end-to-end redesign of services from a client perspective while re-integration focuses on joining up functions to cut off activities that do not add value (Yang, 2016:23). Therefore, implementation of e-procurement systems relates to the DEG fundamentals. Williams (2016:23) further reiterates that with digitilisation, procurement moves to the centre of value creation by connecting organisations with a network of external partners to create new business models.

Despite the compelling, heuristic, and empirical evidence from both developed and developing nations that e-procurement is a viable tool to promote better procurement governance, levels of adoption remain low. The lack of action by local governments like the Harare City Council raises questions on why not, and why there has not been enthusiasm to implement e-procurement systems. The World Bank (2012) supports this view that the implementation of e-procurement does not appear to be smooth, while Thai (2008:478) contends that the rate of implementation success has been less spectacular. Davila *et al.* (2003) assert that the success of e-procurement solutions within organisations has not been great as expected, while Ilhan and Rahim (2020:1) underscore that the real challenge is lack of knowledge of e-procurement experience in the public sector within the local government context. Furthermore, MacManus (2002:11) postulates that a challenge facing local government procurement is that it does not have a one size fits all practice, hence there is lack of an accepted standard across the public sector on how organisations can undertake e-procurement implementation. The local government context generally is given little attention within national e-governance policies and strategies (Misuraca, 2004: 59). Hence, e-procurement implementation at local government remains low which exposes the procurement process to corruption and high levels of inefficiency.

Moreover, the rate of e-procurement adoption in developing countries is lower than the opportunities it presents on the market (AfDB, 2016:23; Adebayo & Evans, 2015). Muhungo *et al.* (2020:3) suggest that e-procurement is perceived as a disruptive innovation that can derive a radical transformation thereby uprooting some institutionalised work practices, hence this result in procurement failure. Similarly, the Zimbabwean public procurement system is flawed by scandals. This is worsened by the decline of ethical obligations and morality in public procurement (Magaya & Chidhawu, 2016:185). Challenges are continuously faced with regard to meeting the demand for public services at the local government level (Chigudu, 2014:64). These challenges emanate due to poor procurement outcomes associated with usage of traditional paper-based procurement systems. Dzuke and Naude (2017:12) described the procurement landscape in Zimbabwe to be fragmented, inefficient, and porous. Hence, Sikwila and Karedza (2016:45) suggest that those rampant scandals in public procurement indicate a misplaced business model that has created a platform for white collar corruption which is bleeding the national fiscus to its knees. In the case of Harare City Council, cases of procurement malpractice are rampant where goods are procured without going to tender through dodgy means (Chidakwa, 2021.) Due to the prevalence of such cases of procurement malpractices, Harare City Council must implement an e-procurement system to boost its procurement capability.

E-procurement is part of the e-government program encapsulated in the Result Based Management system the Zimbabwean government adopted that seeks to modernise the public sector (Hasan, 2017). The government has made other modernisation reforms which have seen procurement procedures being decentralised to government departments and local governments (ibid, 2018). For instance, the government promulgated the Public Procurement and Disposal of Public Assets Act (Chapter 22:23) in 2018 which controls and regulates public procurement. The Act seeks to promote the procurement and disposal of public assets in an honest, cost-effective and transparent manner through the incorporation of e-procurement systems. In light of these government directives and legislative promulgations, no significant progress has been attained with regard to the implementation of local government e-procurement. Dlakuseni *et al.* (2018) add that despite the support it enjoys from political pronouncements, e-procurement

implementation at local government levels is going at a painstakingly slow pace. The slow growth of e-procurement technologies has made public procurement to become a costly activity (Sikwila & Karedza, 2016:122). The Harare City Council is presently underpinned by conventional approaches towards procurement processes. This leaves a gap to explore, in light of e-government directives, if local governments like the Harare City Council are ready to implement e-procurement systems. Gil- Garcia *et al.* (2018) underscore that to implement digitilisation concepts in the public sector, there should be some e-readiness indicator.

Extant literature has examined e-procurement implementation in the public sector from different dimensions and these influence its operational performance within an organisation. Studies by Croom and Brandon- Jones (2007) established key themes that have emerged from e- procurement implementation experiences in the public sector. It was established that organisational characteristics, system specification, and project implementation are critical issues in e-procurement implementation. Rahim and As-Saber (2011) emphasise the influence of internal and external integration as e-procurement is inter-organisational in nature. According to de Boer *et al.* (2002:122), the impact of implementing any e-procurement form in an organisation may relate to four areas which are organisation, information technology, cultural and financial. These key considerations discussed in literature form the framework basis for e-procurement implementation. However, these previous studies on e-procurement implementation have failed to ascertain the influence of public sector complexity on e-procurement implementation. The procurement processes in the public sector are influenced by other factors that are not internal to an organisation.

In line with the above, Fountain (2001) underscores that implementing IT in the public sector domain is seldomly simple and it has to be framed within the ambiguous and continuously transformative constraints of administrative and political prerogatives. Consensually, e-procurement implementation in public sector is more complex compared to the private sector (Wahid, 2010; Muhungo *et al.*, 2020:47). These findings are consistent with a recent academic account by Chen *et al.* (2021:2) that indicate that local government procurement complexity influence e-procurement adoption and implementation. Factors internal and external to an

organisation influence the procurement activities for an organisation and consequentially on e-procurement implementation. This study explores the feasibility of designing a framework to promote e-procurement implementation for effective delivery of services at the local government level. A framework design allows the development of a greater understanding of the influence of e-procurement implementation factors on the procurement performance of an organisation.

1.2 PROBLEM STATEMENT

Local governments need to extend innovations to core public administration functions like procurement to add value for money to public service. Moon (2005:245) underscores that the advent of e-governance has provided opportunities for public managers to leverage ICTs use in areas like public procurement. However, local governments in Zimbabwe, specifically the HCC, have failed to adapt to changes in technology which has made them maintain traditional systems of procurement (Chidakwa, 2021). Musanzikwa (2013:120) posits that procurement systems in Zimbabwe have been under scrutiny with many blaming failures to implement projects and initiatives on the ineffective conventional procurement systems. In the case of Harare City Council, this offers greater opportunities for abuse and malpractice in managing public funds (Chidakwa, 2021). The World Bank (2018a :2) reports that public procurement in Zimbabwe is accounted for a good 20% to 25% of Zimbabwe's annual budget. This is in tandem with findings by Dzuke and Naude (2017:11) that public procurement expenditure takes up around 25% of government expenditure. Local government procurement has become one of the main avenues in which public funds leakages are most dominant.

The prevalence of unethical conduct within the supply chain management system is high at Harare City Council (Maramura & Shava, 2021:622). This can be supported with the consistency of the Zimbabwe Auditor General's findings on the state of local authorities over the years which reflects high levels of unethical conduct in procurement. The 2017/2018 (AG) Report provides that HCC's Supply Chain Unit is failing to execute its functions effectively for the benefit of citizens due to corruption. The AG's (2013/2014:19) reports exposed a lack of adequate systems which are capable of disclosing irregular public expenditure as well as improper conduct in supply chain management at HCC. More recently, the AG's Report (2019:96)

revealed several irregularities like over-invoicing, contract inflation, and non-retirement of contract advances. For example, the Report criticised the council for hiring equipment from a supplier without following tender procedures for \$222 950 instead of repairing it on its own for \$159 696.

Empirical studies conducted by Dzuke and Naude (2017) and Musanzikwa, (2013) highlighted many public procurement challenges affecting supply chain management within the Zimbabwean public sector. In the case of HCC, Maramura and Shava (2021) established that procurement practice is shrouded with political interference, lack of transparency in the award of tenders, and poor systems of accountability. Chimberengwa *et al.* (2015) indicate that problems like procurement of poor-quality goods, and shortages of raw materials are associated with poor procurement planning and failure to comply with procurement policies and legislation. There has been a constant criticism of inefficiency in the award of tenders for various projects at HCC which has led to product shortages, delays, and non-completion of projects (Mushanyuri, 2014:4). Therefore, a decline in service delivery evidenced by poor infrastructure development, wastewater management, and water reticulation services in the communities within HCC is clear evidence of procurement failure (Dube, 2019; Maramura & Shava, 2021:623). Against this backdrop, the deployment of automated technologies like digital contract management, procure to pay, and source to settle can limit the need for constant human intervention which is the biggest threat on public procurement (European Union, 2014:5).

Despite wide literature examining e-procurement implementation in the public sector, there are limited studies that explore how key factors in e-procurement implementation interact to influence procurement performance and service delivery at local government levels. Previous studies in e-procurement have mainly focused on key factors that influence e-procurement implementation from the internal organisation perspective, the challenges organisations face towards e-procurement implementation as well as the motivations. Neupane *et al.* (2012) examined the applicability of e-procurement as a tool for addressing corruption in public procurement, while Shakya (2015) analyses its utility in addressing different dimensions of good governance like transparency. Studies by Croom and Brandon

Jones (2005) as well as Croom, (2001) also established key issues in implementation, which brings out the importance of different factors that influence implementation success like ICTs skills, organisational characteristics. The same findings were established by Vaidya *et al.* (2006:71) that ICT infrastructure, top management, and e-procurement strategy contribute significantly. Nurmandi and Kim (2015) assessed e-procurement implementation in Indonesian local governments and the key finding of this research was that human resources are of great significance to e-procurement implementation. These studies do not provide a direct relationship between e-procurement implementation factors' influence on e-procurement performance within the local government context.

In line with the above, Reddick (2004) underscores that there is in-depth investigation and understanding of specific issues relating to the e-procurement implementation and operational performance of public procurement are essential for the establishment of appropriate principals and effective. According to Transparency International (2014:89), the failure to formulate a framework guideline for procurement adoption in the context of a developing state has resulted in this form of automation remaining in a nascent state. Hashim *et al.* (2010) underscore that the development of a framework provides a clear entry point and a clear relationship among different variables involved in e-procurement implementation. An organisation implementing e-procurement systems should incorporate several considerations in its design that have a direct impact on procurement performance within an organisation. Hence, the research problem to be addressed in the study is a design for a framework for e-procurement implementation at HCC.

1.3 RESEARCH QUESTIONS

The study seeks to answer the following research questions:

Primary research question

Which are the key design considerations of a framework for e-procurement implementation for local government?

Secondary research questions

1. What are the key concepts, theories or models relevant to e- procurement available in literature?
2. What is the relationship between e-procurement readiness levels and prospects of e-procurement implementation at Harare City Council?
3. What are the factors that influence the design, development, and implementation of a framework for enhancing e-procurement implementation towards effective service delivery in local government?
4. What are the challenges being faced by Harare City Council in the implementation of its e-procurement system?

1.4 RESEARCH OBJECTIVES

The primary research objective of the study is

To propose a framework design for e-procurement system implementation for local government.

The secondary research objectives of the study are

1. To explore key concepts, theories or models relevant to e- procurement available in literature.
2. To investigate the relationship between e-procurement readiness levels and prospects of e-procurement implementation at Harare City Council.
3. To examine factors that influence the design, development and implementation of a framework for enhancing e-procurement implementation towards effective service delivery in local government.
4. To identify challenges faced by Harare City Council in the implementation of its e-procurement system.

1.5 CENTRAL THEORETICAL STATEMENT

A common challenge being faced by governments worldwide is the need to transform and modernise administrative practices and management systems (Tapscott, 1996). Clarke (2017:358), citing Clarke and Margettss (2014,)

underscores that the public sector has a troubled history of over-cost, inefficient, and substandard service delivery due to failure to embrace digital innovations. However, there has been increased recognition that e-business models like e-procurement offer much needed opportunity to streamline internal processes towards the attainment of efficient service delivery outcomes. Therefore, the DEG model exploits the potential of technology to promote innovation, sustainability and quality service delivery (Torfining *et al.*, 2020). In addition, it addresses many management values through exploring the implications of technology adoption for service delivery systems, organisational structures, processes, and performance (Gil- Garcia *et al.*, 2018). Ultimately transformed public governance should produce outcomes that meet user needs, promote value creation while minimising the costs of delivering services (OECD, 2019). Emerging digital technologies can fulfil primary goals for digital government which include improving efficiency and reducing service lead times and offering seamless service provision across an organisation (Layne & Lee, 2001:122).

The advent of the DEG is now the most general pervasive, structurally distinctive influence on how governance arrangements are changing between government, citizens, and other actors (Christensen, 2016: 390). However, digital technologies should not only be used to offer public services only through online platforms. The OECD (2016:10) underscores that governments need to prioritise using digital technologies and data to rethink the design and implementation processes of public services. Local governments like HCC are constantly facing service delivery challenges due to poor procurement governance. In this regard, the adoption of e-procurement systems can transform procurement functions to meet quality and cost-efficiency goals' (reducing rent-seeking opportunities) which directly improves service delivery. According to Thai (2001:9), "the theoretical underpinning of effective procurement system lies in the high level of transparency, accountability, and value for money in the application of a procurement budget".

1.6 SIGNIFICANCE OF THE STUDY

The research findings will expand the frontier of knowledge on factors that influence the successful implementation of e-procurement as well as its operational effectiveness towards service delivery. The implementation of e-procurement

systems has been challenging for the public sector and in cases where it has been successful, it has not achieved any transformative effect on public procurement. Against this backdrop, this study seeks to provide a framework for e-procurement implementation that can promote the sustenance of these systems. This will help in restructuring the procurement function in line with international best practices. Most studies have focused on e-procurement adoption and motivation factors, as well as e-procurement implementation factors (Adebayo, 2015; Vaidya *et al.*, 2007, Afolabi *et al.*, 2017). According to Boafo *et al.* (2020), previous studies (Croom & Brandon-Jones, 2007; Ngai & Rai, 2009) have focused on e-procurement adoption factors with less attention on the impact of e-procurement. Therefore, Rukuni *et al.* (2020) underscore there is scant literature on precursors influencing the implementation of e-procurement and the effect on the successful implementation of an e-procurement system of an organisation. This study explores how e-procurement implementation factors influence e-procurement system performance. This provides an in-depth understanding of e-procurement implementation process which informs the formulation a framework design for e-procurement system.

In addition, the public sector has been lagging behind in terms of e-procurement implementation, unlike the private sector. Ilhan and Rahim (2020) purport that literature lacks agreed upon guidelines in choosing e-procurement implementation activities. This study is unique in a way that it provides an examination of the feasibility of e-procurement system implementation within the public sector specifically in the local government context. Boafo *et al.* (2020) as well as Dlakuseni *et al.* (2018:233) underscore that the fact that e-procurement implementation is still a challenge within the public sector indicate there is a literature gap to further examine the concept. Anthony (2018) underscores that African countries are less advanced in terms of e-procurement adoption, because in general, developing countries are far behind in terms of e-procurement adoption. Therefore, an examination of challenges of e-procurement implementation provides for critical issues that need to be addressed for effective e-procurement system implementation and procurement performance. The study also contributes to the development of theories which analyse the role of ICTs in public governance.

1.7 METHODOLOGY

The methodology provides the guidelines and methods that are adhered to in gathering and analysing data. The nature of the problem to be studied and research questions to be answered are the guiding pillars to decide what approach and strategy would be employed to pursue research. The research takes a qualitative approach which allows a deep understanding of experiences and phenomena under study through semi-structured interviews with key informants.

1.7.1 Literature review

A literature review was conducted to establish what previous research has covered and the inferences that have emerged. A qualitative analytical design was adopted in reviewing conceptual and theoretical frameworks which relate to e-procurement deployment in public procurement. A comprehensive literature review helped to explain relationships between key concepts guiding the study like e-procurement implementation and public procurement. Moreso, scholarly contributions from literature assisted in exploring challenges in e-procurement systems implementation at the local government level. Overall, literature review helped in developing a framework for e-procurement system implementation for local government. The following databases have been consulted to ascertain the availability of literature on e-procurement.

1.7.2 Databases consulted

Databases consulted to ensure the availability and accessibility of literature on e-procurement include the following

- i) Publications made by the World Bank, OECD and ADB.
- ii) Journals like the Journal of Social Sciences and Management, Public Procurement, Supply Chain and Management, Journal of Public Administration Research and Theory, Public Management Review.
- iii) Internet searches on Google Scholar, Google books, Research Gate, Academia Edu to get access to textbooks, research papers.
- iv) Conference papers, Reports, and surveys done by organisations like Transparency International.

1.7.3 Empirical Review

This section provides the research design and approach that was adopted to achieve key research objectives. According to Creswell (2013:3), “research designs may include qualitative, quantitative, or mixed methods research, and these are based on philosophical worldview assumptions, also called research paradigms”. The study is premised on an interpretive research paradigm based on the need to create new, richer understandings and interpretations of social worlds and contexts (Bryman, 2008). For social scientist researchers, this entails looking at organisations or case scenarios from the perspectives of different groups of people like academics, procurement experts, and professionals. Neuman (2014:97), citing Neuman (1997:68) asserts that “the interpretive approach is the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings”. Lincoln and Guba (1985) reiterate that interpretive research attempts to interpret social reality through the subjective viewpoints of the embedded participants within the context where the reality is situated. This helped the researcher to arrive at understandings and interpretations of how people create and maintain their social worlds as cited by Neuman (1997). The interpretive stance was taken for the research because of the phenomena of study which is the implementation of e-procurement systems along their embedding context, which is understood from the view of people responsible for procurement procedures at HCC.

A qualitative case study approach towards research was adopted to assess the level of e-procurement readiness and how this has influenced the prospects of e-procurement implementation at Harare City Council. Thus, qualitative methods of data collection which include key informant interviews and document search were key tools for investigating the research problem. From an explorative design, the interview schedules were used to gain the narratives of officials at HCC on challenges towards e-procurement implementation. Key informants whom the researcher perceives to be part of the e-procurement user community at Harare City Council will participate in the study. These participants occupy roles that make them more knowledgeable about e-procurement; hence their responses will enrich the study. The usage of Harare City Council as a case study gave the researcher a chance to get first-hand data from the participants as they relate to the scenario

under study. Burrell and Morgan (1980) postulate that “the social reality which is created through social interaction that transcends individual motives and actions as a result of deliberate and undeliberate actions is obtained, through the assistance of interpretive approach”.

1.7.4 Research Design

An exploratory research design was adopted to understand the research problem in its context. According to Denzin (2005:115), exploratory research looks for causes and reasons, resultantly it provides evidence to support or refute an explanation or prediction. Exploratory research was adopted because e-procurement is relatively new with little information available on implementation activities in the local government context (Neuman, 2014:99; Saunders *et al.*, 2009:134). This research design was also chosen as it enabled the researcher to gain familiarity with challenges towards e-procurement implementation. Neuman (2014:12) underscores that exploratory research can also help to discover and report some relationships among different aspects of the phenomena under study.

Case studies can be used in exploratory studies; they are suitable for gaining a better understanding of phenomena that requires knowledge of organisational context (Yin, 2003). In the case study approach the researcher’s assumptions and understanding play a significant role, thus aligning well with the interpretivist philosophy underlying this study. A single case study was chosen as a unit of analysis for this study because an individual organisation is likely to have one e-procurement system implemented in support of its whole procurement process. Yin (2003:113) further reiterates that the main goal would be of deriving detailed, contextualised inferences and understanding the dynamic process underlying a phenomenon of interest. According to Kothari (2004:25), using HCC as a case study enables the researcher to aim investigate the research problem in its natural settings, a key component of qualitative research. Case research is a unique research design in that it can be used in an interpretive manner to build theories. In an interpretive study, understanding phenomena is mainly done through people in the agency involved in the organisational processes and in this case its Harare City Council procurement officials.

1.7.5 Population and Sampling

The researcher applied purposive sampling to select thirty (30) individuals to participate in the research from the target population. The target population, according to Burns and Grove (1997:236), is the entire aggregation of respondents or subjects that meet the designated set of criteria. In this study, the population consisted of HCC officials specifically from the ICT division and Procurement Management Unit, several executive users (departmental heads) from the various business areas of the council, procurement experts or professionals from the Procurement Regulatory Authority of Zimbabwe (PRAZ), officials from the Ministry of Information Communication Technology Postal and Courier Services, representatives from Combined Harare Residents Association (CHRA) and academic personnel from the University of Zimbabwe, Department of Public Governance and Management. These groups of people were chosen as sources for the sample population as they are well-informed about e-procurement and public procurement issues. This criterion of selecting participants based on prior knowledge and reasonable judgment that they are likely to have key information related to the research is termed purposive sampling (Mugenda & Mugenda, 2003:115).

According to Neuman (2014:15), purposive sampling is used in exploratory research or in field research and is based on the judgment of an expert in selecting cases. Procurement managers or officials and personnel from the ICT department will be specifically targeted because of their role in spearheading procurement processes and technology-driven innovations respectively. Creswell and Clarke (2011) emphasise the importance of availability and willingness to participate, the ability to communicate experiences in an articulate and expressive manner in purposive sampling. Purposive sampling concentrates on people with particular characteristics who will be better able to assist in the research (ibid, 2011).

1.7.6 Research Instruments

The methods of data collection entail a set of techniques a researcher can use to obtain information that helps in meeting research objectives, thus both primary and secondary methods were employed. The research is qualitative; thus, the main research tools were interviews and documentary research.

Key informant Interview

Interviewing key subjects is one of the most common methods of data collection in qualitative research techniques of all kinds. According to Kumar (2019), key informant interviews refer to interviewing a selected group of individuals who are most likely to provide the researcher with the required information and insights related to a particular subject. The key informants in this research study were selected for their specialised knowledge and unique perspective on the notion of e-procurement and public procurement systems. The knowledge may be based on special positions, experience, and participation of the respondents in a program under study for instance government officials, academic personnel, and procurement experts. The main advantage of key informant interviews is that facial expressions and other indications of attitudes can give additional information that can be recorded (Kothari, 2004:9). The researcher used a semi-structured interview guide to gain attitudes and perceptions on e-procurement implementation issues and challenges by the help of personnel in charge of procurement at HCC and procurement experts from PRAZ. The semi-structured interview guide was adopted as it allows flexibility on the part of the interviewer to diverge and pursue responses for details (Kumar, 2019). Open-ended questions in the interview guide enabled the researcher to solicit the opinions of the participants about the study objectives. Interview questions helped the researcher to confirm data obtained through documentary research.

Documentary Search

Bowen (2009:33) defines document search to be a qualitative research tool in which documents are interpreted by the researcher to give voice and meaning around an assessment topic. It enables a researcher to examine information collected through different methods, which gives the researcher an opportunity to corroborate findings across data sets. Desktop research of articles related to e-procurement issues and public procurement, in general, was done using a timeline of 2001 to date. Hence, the researcher used both printed and electronic materials. The range of documents used includes publications such as books, journal articles, newspapers, and audit reports, government publications such as Zimbabwe Acts of parliament (Public Procurement and Disposal of Public Assets Act 2018, Public Finance Management

Act). The researcher used documentary research because documents are "non-reactive data sources (Bowen, 2009:31). This implies that they can be reviewed several times and remain unchanged by the researcher's influence. The documents helped the researcher to uncover meaning, develop understanding and discover and discover insights relevant to the research problem (Mills *et al.*, 2006:118).

1.7.7 Data Collection

It is crucial to provide an outline for a data collection guide map highlighting how research tools will be used to obtain data. The first stage involved in-depth interviews with the key informants using a semi-structured interview guide. In the process of formulating questions for key informant interviews, the researcher reviewed available information about the study first. Kumar (2005) asserts that this makes the interview productive and the interviewer can focus on asking relevant questions. Hence, from this stage, the researcher formulated an interview guide that lists topics and issues to be covered in the interview. The researcher had to identify key informants who could possess intimate knowledge related to the issue of public e-procurement for instance procurement managers and experts. Key informant interviews were used as the tool for gaining data from key informants.

The researcher made calls and, in some cases, would visit physically these individuals to confirm interview dates and locations. After confirmation of interview dates or schedules, the researcher had to make sure that the questions in the guide are clear and that there is no use of deep jargon that may confuse the interviewees. During the interview, the interviewer used a recorder to tape the interview session with the permission of the interviewee. Also, one can take down notes and highlight areas that may need further clarification so that the flow of the interview is not disturbed.

1.7.8 Data Analysis

The process of data analysis can help the researcher to transform data into a meaningful and less abstract form that end users can easily understand. The research data was analysed through thematic and content means. Braun and Clarke (2006:79) define thematic analysis as an analytic technique for qualitative research which includes the analysis and reporting of patterns (themes) within a data set. The

narrations of key informants from interviews were grouped into themes from which conclusions were easily made. Data analysis through thematic means allows the researcher to associate analysis of the frequency of a theme with one of the whole content. This confers accuracy, intricacy and enhance the research's whole meaning.

Data from documentary searches was analysed through content means. Content analysis involved determining the presence of certain words, and concepts within the data set which helps to elicit meanings from the data and draw conclusions (Marsh & White, 2006). Content analysis can help the evaluator to identify certain words, organise, or categorise texts to understand new ideas, change in attitudes, or behaviors (ibid, 2006). The researcher also took data transcripts from interviews and identify categories or recurring words or themes. The researcher associated analysis of the frequency of a theme with one of the whole content which allowed the researcher to easily make conclusions and comparisons across the data (Braun & Clarke, 2006). This helped the researcher to draw conclusions easily.

1.7.9 Data Monitoring Strategies

Qualitative researchers aim to design and incorporate methodological data monitoring strategies to ensure the trustworthiness of the findings (Johnson & Long, 2000). According to Slevin (2002), data monitoring is a category of oversight mechanisms that monitor and ensure the quality of the data created, utilised, and maintained in undertaking research. Trustworthiness is achieved by data credibility, reliability, authenticity transferability, dependability, and conformability in qualitative research (Lincoln & Guba, 1985). The researcher employed several data monitoring strategies which included:

- Respondent validation involved inviting participants to comment on interview transcripts. The re-engagement of participants to revise the transcripts allowed them to add or nullify some information. In addition, these follow ups were done for verification of findings and confirming some of the data provided during interviews. This helped in determining whether the final themes and concepts created adequately reflect the phenomena under study (Slevin, 2002).

- Data triangulation involved adopting different methods of data collection which include interviews and document research. This allowed the researcher to capture different perspectives as well as constantly compare data from different sources (Creswell & Poth, 2013) which increases the reliability of data findings. The adoption of different methods in the study compensated for their individual limitations and exploits their respective benefits.
- The inclusion of different sampling groups helped to reduce biasness to one population group. In this study, the researcher interviewed user departments (HCC), procurement regulating body (PRAZ), service delivery recipients (CHRA officials), and academic personnel. This helped in ensuring data credibility as multiple perspectives were gathered by including different sets of informants in the study. Most important to note is that the researcher recruited participants who had declared interest to be part of the study, this was done to ensure honesty of respondents which enhances data trustworthiness. Member checks were done where participants were asked to read interview transcripts generated by the researcher to check correctness.

1.8 ETHICAL CONSIDERATIONS

It is essential to consider and uphold research ethics in the process of undertaking social science research. Babbie (2010:784) defines ethics as a code of conduct or behaviour considered correct in research. The consideration of research ethics helps towards the attainment of research goals for instance knowledge generation. Before conducting the study, the researcher submitted a detailed application to the North - West University Basic and Social Sciences Research Ethics Committee (BaSSREC) for approval to conduct research. The researcher wrote letters asking permission to undertake research from the gatekeepers (Ministry of ICT Postal and Courier Services, Procurement Regulatory Authority of Zimbabwe, and the Harare City Council).

1.8.1 Informed consent

According to La Rossa and Bennett (2018:150), in every discipline, it is considered unethical to collect information without the prior knowledge of participants. Therefore, the researcher upheld the informed consent principle by debriefing respondents on

the nature of the research, possible benefits if any, and possible harm involved (Miller *et al.*, 2015:17). Invitation letters were sent out to participants through email or if necessary, the researcher will have to make physical visits to their offices. The researcher sent informed consent forms to interested participants which contain detailed information related to the study which include research aims, possible risks, and other information related to the study. The informed consent form explicitly indicated that no compensation will be awarded for participating in the study. The respondents were given (ten) 10 days from the day they receive the invitation letters to indicate whether they would be willing to participate or not. The researcher requested respondents to sign and return the consent forms as an indication that they agree to participate.

1.8.2 Recruitment and enrolment

Upon receiving research approval letters, the researcher sought for permission through the Human Resource Office (gatekeepers) for the distribution of fliers on staff portals and notice boards to ensure that interested participants respond. Invitation letters were sent out to participants through email or if necessary, the researcher made physical visits to their offices. The researcher was responsible for conducting all interview sessions both online and face-to-face.

1.8.3 Privacy and Confidentiality

The researcher ensured that the right to privacy and confidentiality of respondents was upheld during the data collection stage while reporting findings, and afterward until the data is disposed off. Beardsley (2017:65) postulates that researchers are obliged to protect the right to privacy, by guaranteeing full anonymity or confidentiality to participants. Hence, anonymity was ensured by the researcher by assigning fictitious or name codes to participants before the interviews start and the same will be done during the whole research process. In addition, to maintain confidentiality, the interviewer did not ask controversial or personal questions not related to the study which could possibly lead to discomfort for the participant. Privacy was promoted by not probing unnecessarily if a participant does not wish to discuss particular matters. In the case that a participant would be sharing an office with a colleague, the researcher asked for permission to use a boardroom, any other unoccupied office space, or an alternative location where the participant felt

comfortable for the interview period. Additionally, the researcher avoided the disclosure of information that directly or indirectly identified participants by using use code names in the reporting of findings rather than names. All identifiable personal information was de-identified to ensure that no information identifies any participants, organisations, or locations.

1.8.4 Risks and benefits

Dixon and Quirke (2018:16) assert that in social research, subjects can be harmed in a physical, psychological, or emotional manner. A researcher is obliged to inform participants of possible risks and benefits associated with the study. The researcher informed participants that there would not be any direct benefits to participating in the study. The indirect benefit will be the contribution to knowledge through recommending strategies to spearhead e-procurement implementation in local government. The researcher understood that there was a possibility that participants would get infected by COVID-19 by participating in face-to-face interviews. Therefore, the researcher indicated this possible risk in the informed consent form so that participants become aware. The researcher also indicated that measures would be taken to ensure participants' safety and reduce the potential of COVID infection. These included the application of hand sanitizers, putting on three ply-mask, and maintaining social distancing. To avoid extra costs for the participants, masks, and sanitizer were provided by the researcher at zero cost. The researcher understood that the interview would take a maximum of forty -five (45) minutes which can lead to discomfort and boredom; therefore, respondents were allowed to take ten (10) minutes comfort breaks during the interview.

1.8.5 Data Management Plan

Data management describes the organisation, storage, preservation, and sharing of collected data used in a research project (Long & Johnson, 2000). This data can be in various forms like notes, audios among others. The researcher ensured that hard (printed) data was safely locked away in an office safe which requires a pin code to access. Soft copy (electronic) data was stored in a password-protected external hard drive or flash disk during all stages of the research process. This helped in ensuring that the data was not accessed by unauthorised individuals. Electronic data was also stored in Google drive as a backup in case local copies get lost. All data

collected for the research was preserved safely in electronic and hardcopy format for five years after which it will be disposed in line with the NWU data policy.

1.9 DISSEMINATION OF RESEARCH FINDINGS

The researcher will share the research report with the Harare City Council (management) and Procurement Regulatory of Zimbabwe. The thesis findings will be accessible from the North-West University Institutional Repository so that fellow students and interested researchers can have access. Research findings were presented at conferences (international and national) as well as during seminars or research symposiums as a way of disseminating information to various stakeholders. The researcher submitted manuscripts to peer-reviewed journals for publication to disseminate the findings of the study.

1.10 LIMITATIONS AND DELIMITATIONS

The study was undertaken on only one local authority, which is HCC, thus the research findings may not be equally applicable to other local authorities, since they may be using different types or models of procurement systems. The management or leadership in urban local authorities are always operating in organisational setups where issues are over politicised, in most instances they become suspicious of the investigator or researcher. In such a scenario, critical information may not be provided by participants, thus this is likely to affect research findings. The researcher made an effort to explain to respondents that the data is for academic purposes so that they became comfortable and cooperate during the research process. Delimitations are perceived to be boundaries that the researcher sets to control the scope of the study (Leedy & Ormrod, 2010). The research was limited geographically to Harare City Council therefore; other city councils in Zimbabwe were not part of the research.

1.11 PROVISIONAL CHAPTER LAYOUT

CHAPTER 1: ORIENTATION AND BACKGROUND OF THE STUDY

This section provides the research background as well as the problem statement. Other key subtopics covered by the chapter include research objectives, questions and theoretical statement.

CHAPTER 2: E-PROCUREMENT IMPLEMENTATION IN PUBLIC PROCUREMENT: THEORETICAL AND CONCEPTUAL ISSUES RELATED.

This chapter presents the theories underlying the study and how they are linked to the problem under investigation.

CHAPTER 3: RELATIONSHIP BETWEEN E-PROCUREMENT READINESS LEVELS AND PROSPECTS OF E-PROCUREMENT IMPLEMENTATION AT HARARE CITY COUNCIL.

This chapter discusses e-procurement readiness indicators at HCC and how it influences the decision to implement an e-procurement system.

CHAPTER 4: FACTORS THAT INFLUENCE THE DESIGN, DEVELOPMENT OF A FRAMEWORK FOR E-PROCUREMENT IMPLEMENTATION TOWARDS EFFECTIVE SERVICE DELIVERY IN LOCAL GOVERNMENT.

This chapter assesses the factors that influence the implementation of an e-procurement framework and how it affects service delivery in local government.

CHAPTER 5: CHALLENGES TOWARDS E-PROCUREMENT IMPLEMENTATION AT HARARE CITY COUNCIL.

This section discusses the challenges HCC is facing in the implementation of its e-procurement system.

CHAPTER 6: CONCLUSIONS, RECOMMENDATIONS

The section presents conclusions on research findings at HCC and recommendations for future studies.

CHAPTER 2: THEORETICAL AND CONCEPTUAL PERSPECTIVES ON E-PROCUREMENT IMPLEMENTATION

2.1 INTRODUCTION

The prominence of digital technologies within the 21st century has reshaped the entire organisation of functions and processes in government. In the public procurement context, governments have recognised the potential of ICTs and the internet prompting them to digitise procurement functions, a process dubbed e-procurement in this study. Egorova *et al.* (2021:88) underscore that the growth in procurement expenditure of goods, works, and services to meet public needs has not always been accompanied by an adequate increase in their efficiency and effectiveness. Therefore, e-procurement provides an opportunity to revamp and streamline the public procurement function. Essentially, e-procurement has become a priority of the e-government agenda (Tutu *et al.*, 2019:2; Bulut & Yen, 2013:2). As such, Schoenherr (2019:9), citing Gul and Litha (2016) underscores that the integration of IT in supply management processes is not an option anymore. Despite this, e-procurement has not been explored and appreciated in the public sector the way it has been in the private sector (Schoenherr, 2019:2). The public sector remains riddled with executing procurement functions efficiently and effectively, which brings the need to examine e-procurement implementation in the same context.

The objective to be addressed in this chapter is to explore the key concepts, theories, or models relevant to e-procurement in the public procurement context. E-procurement in this study is perceived to be part of e-government development efforts within the digital era. The first section discusses the concept of e-government exploring its dimensions which are e-services, e-administration and e-democracy. The section further discusses how e-government growth has transformed governance in the public sector. Plesner *et al.* (2018:3) contend that the public sector constitutes a specific context for digitisation and that the specificities of public sector organisations should be further examined to contextualise digitalisation and its implications for work. Henceforth, the discussion examines the implications of e-government development in the public sector realm. This chapter also discusses the

concept of public procurement and the various principles that guide the procurement function.

Further, the chapter provides a conceptual analysis of e-procurement from different dimensions as well as a discussion of e-procurement types. Hence, themes that emerge from e-procurement literature are discussed in depth as e-procurement is multi-disciplinary. As a result, e-procurement can be understood from the public administration context, information systems as well supply chain discipline (Muhungo *et al.*, 2020:1). E-procurement implementation is also analysed in the context of local government and developing countries context to assess perspectives and different points of analysis across the literature. The chapter closes by providing a discussion of e-procurement linked to the theoretical perspectives that address e-procurement implementation issues. Bwalya (2018:6) asserts that e-government studies suffer from being under-theorised. This study addresses this shortcoming by providing a theoretical understanding of e-procurement implementation within the ambits of the Diffusion of Innovation Theory (DOI) and the Digital Era governance Model (DEG). The TOE framework explores the contextual influences on the implementation of e-procurement systems in local government, while the DOI analyses the process of innovation (e-procurement) implementation by dissecting several inferences. The DEG model enables an understanding of the role as well as the centrality of digital technology in public sector governance.

2.2 CONCEPTUALISATION OF E-GOVERNMENT

Several scholars (Khan *et al.* 2021; Adjei- Bamfo *et al.* 2020; Gil-Garcia *et al.*, 2018) argue that with the advancement of ICTs, public administration in many countries have embraced ICTs to enhance the efficiency of government processes. This has been driven by the globalising world changes that have been initiated and boosted by virtually interconnected networks of participants, markets and information systems (Bialozyt, 2017:1). The resulting knowledge revolution prompted governments to implement electronic government (e-government) systems to deal efficiently with increasing citizens and businesses requirements in a more and more dynamic environment. Bwalya (2017:31-32) further purports that currently public administration is being driven by massive informatisation and infocracy where traditional government systems and processes are being replaced by innovative

public service delivery enabled by ICT platforms. The concept and practice of e-government have been defined using various terms such as online government and nowadays with advanced terminologies such as mobile government (Bwalya, 2018), smart government (Mensah, 2020), “digital government” (OECD, 2017), or “mobile government” (Margetts & Dunleavy, 2013). In essence, e-government is narrowly perceived to refer to public functions and institutions that have become digitised (Masudin *et al.*, 2021:2). A broader view of e-government is that it is related to the entire range of government functions and activities, shaped by and making use of information and communications technologies (ICTs) (Brown, 2005:242).

Moreso, Bwalya (2017:6) suggests that the concept of e-government presents a multi-dimensional paradigm shift in government business. It presents a shift from the traditional manual-based public administration to a digitised system, by addressing the inefficiencies brought by conventional paper-based systems. Antoni *et al.* (2017:1), as cited by Bwalya (2018), underscore that e-government refers to a structuring management system and work processes in the government by maximising the utilisation of ICT. The same sentiments are shared by Adjei- Bamfo *et al.* (2020:2) underscoring that e-government is a system that includes the replacement of manual interfaces with web-enabled interfaces for regulatory, enforcement, and other governance functions. With the increase in digitilisation efforts, consequently, governments have established online service platforms common to several public sector organisations to simplify administrative processes and improve interaction with citizens (OECD, 2020:12). Drawing from these definitions, the implications of e-government in public administration are twofold. Firstly, automatisisation of back-office functions for efficient service delivery outcomes, secondly improved interaction between government and citizens through e-government platforms like the internet.

Brown (2005) underscores that e-government should focus on all government roles and activities making use of ICT in knowledge-based government. Malodia *et al.* (2021:2) underscore that this narrow and technology-deterministic conceptualisation of e-government in public administration has resulted in e-government failure. This is more prominent in developing countries where government efforts are more focused

on the acquisition of digital technologies (Yildiz, 2012). Meanwhile, Yildiz (2007:7) underscores that technology is just a means to achieve e-government; however, mere technologies do not fundamentally define what e-government is and its operational outcomes. A technological deterministic approach increases the vagueness of the e-government concept (Bwalya, 2017), because focusing more on technological artifacts makes it impossible to appreciate the evolving nature of e-government (Yildiz, 2007). Hence, a suggestion is made by Ronchi (2019) that the e-government adoption revolution will incorporate the entire structure from organisational aspects to personnel and procedures. Khan (2018) suggests that with regard to e-government, the government has to rethink its whole approach in terms of information flows and processes. Therefore, e-government is perceived to be more than just putting in new computer systems that involve complementary changes to administrative practices and business processes (Ronchi, 2019:65); however, it should include a complete overhaul of the system of government.

Moreso, e-government is perceived to be a phenomenon that seeks to address the limitations of traditional public administration. Yildiz (2003) underscores that it is perceived as something inherently good. The manual approach to public administration is associated with high levels of red tape, and cost ineffectiveness which the e-government seeks to address by reinforcing accountability, transparency, and efficiency (Ronchi, 2019). Hence, Twizeyimana and Anderson (2019:1) underscore that e-government research focuses on the value yielded through the application of e-government in public administration. This reflects that e-government research, for the most part, limited itself to the study of the outcomes and outputs of e-government projects (Yildiz, 2003:4). However, such conceptualisation contributes to both definitional and analytical limitations to understanding the e-government concept. These limitations arise as there is a lack of an in-depth analysis as well as an underemphasis on the complex political and organisational environments that influence the e-government development process (Yildiz, 2007:661). Therefore, Bwalya (2017) underscores that when not carefully designed to dovetail into the contextual characteristics of the area in which it is implemented, e-government may show many negative effects. Therefore, to

overcome the definitional limitations, it is critical to understand the political processes behind e-government development.

Meijer *et al.* (2018), citing Meijer and Bolivar (2015), define e-government as the usage of ICTs towards the redesigning of the interactions between government and its stakeholder in its external and internal environments to realise value addition. In other words, e-government refers not only to those who go online or provide public services. It is more like a complete network in which the central government and its branches at different levels can be connected via intranets, extranets, and the Internet to share information (Xu *et al.*, 2003:4). Common literature on e-government presents a bias where particular attention is being given to the question of how best to achieve the blessings of e-government (Yildiz, 2012). Bekkers (2012:331) argues that there is conceptual vagueness in ICT adoption and implementation in government. This is about what e-government entails, its purpose, the nature of applications that need to be built as well as the actions needed to be taken in establishing e-government systems (Hu *et al.*, 2003:4). As reiterated in the foregoing discussion, the e-government literature is heavily associated with discussion on ICTs and information system. Therefore, it is important to indicate that e-government depends on the scope of information technologies and governmental activities because e-government is a mixture of technologies and government operations (Hu *et al.*, 2003: 3). Bwalya (2017), Malodia *et al.* (2021:4) as well as Yilidiz, (2012) underscore that despite e-government being multidimensional in nature, it should be posited that public administration and technology (enabler platforms) take a centre stage to its success. E-government can benefit from cross-fertilisation across three bodies of knowledge (innovation, technology, and governance studies).

E-government can be distinguished into three main domains which are e-administration, e-services and e-democracy (Kudolsheva, 2021:1248). These several domains present the ever-evolving nature of e-government. The e-administration domain of e-government presents the execution of routine tasks by public sector staff to promote efficiency in the administrative function of the government (Misuraca, 2015). E-government has further developed to enable the government to deliver and exchange goods, information, and services with its external stakeholders including citizens (customers) and businesses. This process of

online service delivery is perceived as the e-service dimension of e-government (Khan, 2018). Thus, Bwalya (2017:6) underscores that “a fully developed e-government solution should provide a bi-directional flow of information to an extent that there is synchronous interaction between government agents and e-government consumers”. Brown (2005:243) contends that the e-democracy is another domain of which describes the state legitimacy, rule of law and its relationship with its citizens. E-democracy is considered to be a higher stage or relatively mature level of e-government (Gil-Garcia *et al.*, 2018:633). Given the aforementioned e-government dimensions, it is evident that defining e-government concept is not limited to computerisation of a government system, but it is believing in the ability of technology to achieve high levels of improvement in various areas of government and governance.

2.3 E-GOVERNMENT AND ITS TRANSFORMATIVE NATURE TO GOVERNANCE

In the era of informasation, governments are under pressure to find improved ways of creating and delivering public services amidst socio-economic challenges such as growing and aging population, and limited financial resources among others (Khan, 2018:34; Larsson & Teigland, 2019). In sum, governments are facing increasing expectations and greater demands from citizens regarding the range and quality of services in correspondence to the intelligent information society (OECD, 2016). This is because the citizens have more access to information; as a result, they are in a position to demand quality service from the government. Therefore, within this complex and changing environment, public sector organisations are continuously required to modify how they operate to new realities and concepts by embracing the power of technology. The introduction of e-government has remodelled the manner of government and governance in the public sector discourse. However, O’Neill (2009:60) underscores that there is a lack of precision in the literature regarding the concept of transformation of government brought about by e-government, especially in specifying the nature and scope of the expected transformational effects. This section addresses this gap by examining the transformational changes brought by e-government in government business.

Bwalya (2017:5) postulates that “the gamut of e-government outlines the locus and focus of e-government in the overall governance agenda”. The ICT ecosystem is gradually emerging saturated with innovations that have critical implications for the strategic management of government business (Nkwankwo *et al.*, 2021:47). Rahman *et al.* (2017) suggest that emerging technologies can support dynamic changes in the strategic areas of governance, and engender a new organisational philosophy towards accountability. Owing to this, Misuraca (2015:30) underscores that some public administrations are executing vital bureaucratic functions, which in a certain manner are being “reinvented” in the age of digitalisation, while Homburg and Bekkers (2005) conceptualise this as the re-engineering of the public sector bureaucracies as cited by Meijer and Bolivar (2016). Heeks (2002:98) notes a change distinguishing an old model government, that is, IT automating the internal workings of government from the current new model and ICTs supporting and transforming the internal workings of government. This way better governance is achieved through both internal and external business improvement processes, service delivery, and relationships with the public, businesses, and agencies.

Moreover, Bwalya (2017) underscores that the term government in the era of digitisation is no longer adequate to describe the changing relationships between the government and its various stakeholders. In a connected society, citizens are no longer mere recipients of services, but active players in government, it has been suggested that the concept of government is revolving towards governance. The advances in technology have enabled government organisations to undergo a gradual transformation. This transformation is described by Khan *et al.* (2021:3) to be from an inward-focused endeavour, one way focused, to a citizen-centric, outward-focused approach which allows governments to connect to external stakeholders, and understand their needs and concerns. Hence, Meijer and Bolivar (2016) purport that “cities are adopting a holistic approach towards e-government that focuses on an integrated and sustainable development model”. Overall, ICT innovations have made it possible for cities to effectively and efficiently integrate seamless service delivery for both citizens and businesses (Manoharan *et al.*, 2022:466). E-government application across public administration functions like procurement has brought transformative changes towards improved transparency, accountability, and value for money.

2.4 CONCEPTUALISING PUBLIC PROCUREMENT

Khan (2018:7) underscores that procurement is generally divided into three categories which are goods, services, and works. Further, according to *ibid* (2018:7), goods refer to manufactured items like equipment while works relate to construction, repair, and rehabilitation. Services are perceived to be advisory intellectual or technical services that are labour intensive for instance cleaning, surveying, and mapping. Procurement in general terms refers to the acquisition of goods, works, or services by an organisation. It is a complex process by which governments acquire goods, services, and supplies from outside sources to fulfil diverse goals and support essential functions (Thai, 2017:1). Boafo *et al.* (2020:263) purport that procurement in this sense is mainly concerned with acquiring (procuring) all of the goods, works and services that have the optimum importance to the organisation. Above all, the overall goal is to obtain goods or services delivering the most value at competitive prices to an organisation. Therefore, the AfDB (2016:4) underscores that procurement governance serves as a barometer for the quality of public administration, this makes it a target priority for strengthening in many governments.

Public procurement is regarded as a vital business function as it encompasses various activities for an organisation to acquire goods and services (Chan & Owusu, 2017:34). Therefore, procurement is not a once-off activity; however, it involves various stages from request for goods until a final purchase is made for the supply of certain goods and services. For example, Ambe and Badenhorst-Weiss (2012:244) espouse that public procurement is a process that includes a series of steps and functions undertaken to acquire goods and services in an organisation. These series of steps have been identified by Thai (2017:3) to include the identification of needs, selection, and solicitation of sources, preparation and award of contract, and all phases of contract administration through the end of a services' contract or the useful life of an asset. Masudin *et al.* (2021:1) underscore that procurement includes planning, purchasing, shipping, inspection, receiving, and storing activities. In a summary, Boafo *et al.* (2020:237) postulate that procurement refers to all the processes involved in the selection, reimbursement conditions, hiring, purchasing of goods and services covering acquisitions from third parties and internal providers.

Procurement can imply acquiring goods and services in any domain either by private players or by government agencies or departments. Therefore, it is important to distinguish procurement in the private sector from that of the public sector which is public procurement. The public procurement concept has been perceived by different authors to describe the process of obtaining goods and services by the government, a government department, or agency to fulfil a set of service delivery needs. Snider and Rendon (2012:329) conceptualise public procurement as an “axiomatic”, that like other public administration functions for example budgeting, finance and personnel management, is a core administrative function. Public procurement can be differentiated from procurement in the private sector due to various contextual circumstances. This differentiation is drawn from Arrowsmith’s (2007) definition of public procurement which is ‘the purchase of commodities and contracting of construction works and services if such acquisition is effected with resources from government budget. According to Komakech (2016:20), government budgets can be classified as local authority budgets, state foundation funds, domestic loans, or foreign loans guaranteed by the state, foreign aid as well as revenue received from the economic activity of the state.

More so, in distinguishing procurement in the public sector from the private sector, the ADB (2018) indicates the fact that the funds for public procurement are derived from the national budget or a local authority budget. Traditionally, public procurement has been perceived as belonging to the implementation phase of the budgetary process which involves spending money on the acquisition of goods and services (Khan, 2018:2). Hence, it is one of the most appropriate ways to address the general populace’s needs in a way that not only delivers public goods or services but also ensures value for money (Coggburn, 2003; Egorova *et al.*, 2021:88). In addition, public procurement is perceived to be a multifaceted function of a series of practices relating to government actions within the realm of public policy as alluded by Mazibuko and Fourie (2017:107). Therefore, public procurement is motivated by the need to meet a diverse set of social, economic, and financial outcomes at the least possible cost which distinguishes it from procurement in the private sector. Hence, Snider and Rendon (2012:334) as well as Patrucco *et al.* (2019:1) underscore that the achievement of public policy objective is dependent substantially on procurement effectiveness. Therefore, Coggburn (2003) postulates that the

performance of government is likely to suffer if the procurement function fails to deliver goods and services with expected quality in time.

Moreover, procurement within the public domain is broad, and encompasses various activities and procedures compliant with the public sector *modus operandi*. Hence, Thai (2009:23) takes a further approach in defining public procurement as the regulation of principles, rules, and procedures applied to states to implement efficient processes when acquiring goods, services, or works, and comply with its policy objectives. Relatively, Wahid (2012:2) underscores that the public sector differs from the private sector because it has to adhere to several rigid regulations that is it depends on political decisions. For instance, in Zimbabwe like any other country, procurement is determined through procurement laws (Public Procurement and Disposal of Public Assets of 2018), regulations, policy, and budget decisions by legislators and the executive branch. Harink (1999:15) asserts that public procurement “involves more than the goods and services acquisition alone, but also other critical components which include organisational strategy and policy, methods and procedures, personnel, and information”. Therefore, public procurement incorporates a constellation of processes, systems, and actions to support the acquisition of goods, works, and services for an organisation.

In line with the above, Grandia and Meehan (2017:302-303) espouse that public procurement is used for various goals. This development implies that public procurement is no longer just a means to an end but a policy tool that is used to achieve desired socio-economic outcomes. According to Thai (2009:13), public procurement has become much more complex than ever before, such that procurement personnel must deal with a broad range of issues. The author further postulates that governments have been on the brink of trying to balance the dynamic tension between competing socio-economic objectives, national economic interests, and global competition as required by regional and international trade agreements. Relatively, Egorova *et al.* (2021:88) gave an example of a developed country indicating the goal of public procurement as to serve as a tool to stimulate the production of innovative, high-tech products, and support small businesses and socially oriented non-profit organisations. The OECD (2019:2) provides another

dimension of public procurement as a driver toward achieving sustainability. Effective and efficient public procurement systems are defined by the UN (2020) as essential for the realisation of Sustainable Development Goals (SDGs) by ensuring the acquisition of goods and services which ensure adequate service provision (health, education, food security, reducing poverty).

Odhiambo and Kamau (2003:10) indicate that the conceptual analysis of public procurement traces back its roots to the fiduciary obligation by government administrations to deliver goods and infrastructure. However, the public procurement function of government, according to the European Union (2020:122), is further complicated when public procurement, due to the size of its spending, becomes a policy tool that policymakers use to address social issues and economic development. Hence, the World Bank (2020) underscores that public procurement is a fundamental, crucial component of democratic governance. It can help to alleviate poverty reduction, and promote sustainable development. It serves as a significant policy instrument, which local governments can use to propel changes in public service delivery, create fiscal space and jobs, and stimulate private sector growth (Komakech, 2016:23). Procurement policies and requirements are designed to leverage the local government's procuring power to improve economic development, social justice, and environmental sustainability (Chen *et al.*, 2021:6). A summation of the conceptual elasticity of procurement reflects that it is concerned with the acquisition of goods, works and services by a government department or agent towards the realisation of multiple policy social, economic, and political goals in a cost-effective manner.

2.5 PRINCIPLES OF PUBLIC PROCUREMENT

Public procurement principles are key underpinnings that should guide procurement procedures and outcomes. The OECD (2020) and the UN (2008) subscribe to the idea that public procurement principles are goals public procurement activity has to meet. According to the ADB (2018:3), the core principles seek to reflect the standards generally regarded as the international best practice in the public procurement process. The key principles of public procurement include transparency, accountability, integrity, efficiency and economy, non-discrimination and competition. Neupane *et al.* (2012), however, purport that the basic principle of

any government over the world which strives to attain straightforward procurement, is to acquire the right item at the right time within the right price. The pursuit of these principles has prompted governments to adopt e-procurement systems. Thai (2017) underscores that the effect of e-government procurement will greatly enhance compliance with these principles, as well as improve efficiency, value-for-money, and economic development.

2.5.1 Transparency

Transparency ensures that all procurement-related activities are executed in a translucent manner by following a set of procedures and rules (World Bank, 2016). It demands that clear rules and the necessary mechanisms be in place to ensure compliance with such rules (Arrowsmith, 2010:21). Key transparency features in public procurement include enhanced public access to up-to-date procurement-related policies, information on bidding programs, standardised documentation and lodgement of bids, the progress of tender evaluation, and announcements of outcomes (Shakya, 2017:571). According to the OECD (2009) citing the OECD (2007:9), transparency dictates that the entire public procurement process be executed in line with the defined and well-publicised procurement laws, regulations, and procedures leading to the award of contracts or tenders. Therefore, if effective transparency measures are adhered to, unconventional behaviour by local government procurement officials like corruption and collusion can be easily detected and accountability can be effectively enforced. Implementing e-procurement systems promotes transparency as all interested parties can have access to relevant procurement information (World Bank, 2020:2).

2.5.2 Accountability

According to Cloete (1995:3), basically accountability refers to an individual or a group 's duty to answer and report to a higher authority, functionary, or institution about the results obtained with the performance of one or more specific functions. Therefore, in the case of public procurement to maintain accountability, procurement officials have mandatory obligations and responsibilities for performance and stewardship. A common characteristic of the public procurement process is the use of well elaborated procedures which require strict compliance and records with adequate explanations and justifications for every purchase decision made. Tsabora

(2014:8) contends that it is important to create policies and procedures that enhance accountability in public procurement. An accountable public procurement system needs to have clear lines of responsibility between management, budget, technical, and procurement personnel who should be accountable for their decisions (Atkinson, 2020:2022). These measures limit the scope for undue influence and help avoid conflict of interest at all stages of the procurement process.

Atkinson (2020) describes an accountable public procurement function by encompassing the idea of conducting public procurement in a manner that can be defended and traced. According to Shakya (2017), this is because procurement takes much of the government budget hence, it has become a target for reform to promote efficient and effective use of public funds. Upholding accountability can help address abuse in public procurement as there is a guarantee that money contributed by taxpayers is safeguarded and expended on legitimate public services (OECD, 2020; Arrowsmith, 2010). This study subscribes to the view that accountability entails the complete acknowledgment and taking responsibility for actions, decisions, and policies regarding procurement activity in an organisation.

2.5.3 Value for money (VFM)

The principle of VFM is considered to be one of the primary goals of every procurement system where public procurers are driven by the need to secure value for taxpayers' money (Dimitri, 2013:149). In an attempt to provide a standard for defining and measuring VFM, three E's of economy, efficiency, and effectiveness were initially introduced, and later a fourth E (equity) (World Bank, 2016). Concerning public spending, it implies a concern with the economy (cost minimisation), efficiency (output maximisation), and effectiveness (full attainment of the intended results) (Walker & Brammer, 2012). Hence, the principle of value of money in conducting the procurement function is associated with assessing whether deployed resources have been used to achieve expected outputs. Therefore, Mamiro, (2010:4) indicates that the value for money principles is "an essential test against which a procuring entity must justify a procurement outcome".

The OECD (2016:24) underscores that from the user's perspective, value for money is the value (output) attached to some defined cost (input). However, in the public sector, measuring value is one of the most contested areas between the government

and the governed (citizens) (Mairura *et al.*, 2020). This is due to the multiplicity of stakeholders with different priorities and expectations, for instance, citizens expect value for money in the form of improved quality of service delivery. However, in some instances, the pursuance of secondary objectives like the promotion of national or local industries by the government can deter it from attaining value for money (OECD, 2019:170). Additionally, in the public sector, it is difficult to measure value for money because it is not easy to value a public good, and a multiplicity of stakeholders with unclear expectations further complicate the attainment of VFM. As such, Mamiro (2010) argues on the ambiguity of measuring value addition in service delivery. However, public procurement can create value by contributing towards the attainment of government policy goals while affording maximum returns to the providers of finance, the taxpayers.

2.5.4 Efficiency and Economy

Efficiency refers to the commitment of administrators to use scarce state resources sufficiently for the attainment of the stated goals of an institution or service" (Dent *et al.*, 2004:130) as cited by Mamiro (2010). Efficiency requires the execution of the public procurement process as cost-effectively as possible and promptly (Arrowsmith, 2010:19). Economy refers to the control and management of public resources in a way that allows the achievement of value for money while efficiency means the achievement of the desired outputs using the available and cheapest means or resources (OECD, 2016:16). The outcomes of public procurement are considered in light of costs incurred, the level of competitiveness attained, as well as the perception of transparency (OECD, 2020:33). Hence, overall for an organisation to realise efficiency and economy in public procurement, there is need to ensure that taxpayers' money is used to procure goods and services that meet the needs and expectations of customers at the lowest or minimum cost (Komakech, 2016:21).

2.5.5 Competition

An effective procurement process should reinforce fair competition and promote equality among potential suppliers, especially in the bidding and tendering stages (Komakech, 2016:22). In government, the promotion of competitive procurement requires a framework of procurement-related policies, laws, and procedures that are

readily available for all interested parties, especially bidders (OECD, 2009). The principle of competition also requires that tender information is equally availed to all bidders to promote transparency and avoid discrimination and inequality. E-procurement systems offer opportunities for a procuring entity to avail tender information online, this promotes competitiveness and fairness among potential bidders (suppliers).

2.5.6 Non-Discrimination

The principle of discrimination is that a bidder shall not be excluded from participating in public procurement and disposal based on nationality, race, religion, gender, or any other criteria not related to qualification, except if the objective of discrimination is justified (OECD, 2016). It requires public officers conducting public procurement to handle suppliers in a fair and honest manner; ensuring a clear separation of responsibilities among various players (Komakech, 2016:24). The adoption of e-procurement is revered to enhance the participation of Small and Medium Enterprises (SMEs) in bidding for public projects who are usually discriminated in public tender processes (Hashim *et al.*, 2010). Therefore, applying the non-discrimination principle promotes the participation of several bidders which enhances competition during the bidding process.

2.5.7 Integrity

According to the World Bank (2016), integrity is the use of funds or resources according to intended purposes and in a manner that is well-informed, aligned with the public interest, and aligned with governance project activities. It is referred to be a cornerstone for public procurement. Integrity is a practice of upholding ethical standards and values like honesty, professionalism, and righteousness (OECD (2016:11). In public procurement, it refers to the expenditure of funds, resources, assets, and authority in line with their intended official purposes and the public interest. In this sense, procurement officials responsible need to act in strict adherence to procurement regulations and procedures (OECD, 2009:11). Upholding the principles of integrity promotes good governance which contribute to efficient and effective management of public resources. Therefore, if the principle of integrity is upheld, personnel associated with the procurement processes are expected to carry

out their duties with due diligence and in the proper manner in line with the public purpose of their organisations (OECD, 2018).

2.6 CONCEPTUALISING E-PROCUREMENT

E-procurement is an e-government phenomenon in the sense that it involves the use of ICTs and internet technologies for the execution of procurement functions. Thus, in the public sector context, it is usually termed e-government procurement to describe the execution of government procurement over the internet to meet the service delivery needs of the public (ADB, 2018; Bwalya, 2018). The ADB (2013:7) contends that in its broadest sense, the term e-government procurement refers to the use of electronic systems to manage any or all steps of the public procurement process. Therefore, e-government procurement should not be confused with e-procurement, a commonly used term used to describe the use of ICTs to process and manage some or all of the transactional steps of the procurement process (Chan & Owusu, 2022). An e-government procurement system is e-procurement specific to and conforms to government procurement regulations (Malodia *et al.*, 2021). However, there is a general understanding across literature that e-procurement modernise archaic forms of executing procurement functions through modernisation procedures (Plesner *et al.*, 2018). Hence, Nawi *et al.* (2016) as well as Patel *et al.* (2016) appreciate the significance of digital technologies such as computers and the internet in facilitating the acquisition and supply of goods and services to an organisation as part of e-procurement.

E-procurement is the way for an organisation to requisition goods and services through the internet function (Rahman *et al.*, 2017:1). Patel *et al.* (2016:264) perceive e-procurement as a transformed version of the traditional purchase and supply of goods and services into electronic processes such as e-tendering, e-awarding, e-auction and e-sourcing through the Internet. A different perspective is given by Khan (2018:87) underscoring that e-procurement is “not a collection and installation of computer hardware and software only”. The author further purports that this misguided understanding of e-procurement has led to a waste of public resources on systems that never took off the ground when it comes to the implementation of e-procurement. Therefore, Bwalya (2018:56) proposes that e-procurement transcends the adoption of digital technologies for procurement

execution. It involves “the management, automation, optimisation, integration, and enablement of an organisation’s procurement process, using electronic tools and technologies, and web-based applications” (Tatsis *et al.*, 2006: 64).

According to Soares and Carvalho (2017:364), adoption of e-procurement is a lot more than just a replacement of paper with electronic files in the procurement process; however, it involves major organisational changes. These include the breaking up of traditional processes and practices and the obsolescence of knowledge and skills among others (Plesner *et al.*, 2018). It also requires an organisation to acquire new technological, organisational, and legal competencies for dealing with the procurement process, managing information, and interacting with economic operators and e-procurement platforms (Soares & Carvalho, 2017). E-procurement is therefore conceptualised as a complete overhaul of the execution of procurement functions facilitated by digital technologies. Therefore, according to the ADB (2018:5), e-procurement has the capability streamline all the aspects of the procurement process (end-to-end from planning to contract management), however only if its configured correctly. This view is supported by Shakya (2017) underscoring that those recent studies do not limit e-procurement to several functions or processes and assume that in the electronic format full procurement cycle is implemented.

According to the ADB (2018), an end-to-end e-government procurement system typically has an enterprise web portal that primarily addresses the requirements of the supplier community. This portal ought to integrate with an enterprise application system, designed to handle procurement-related workflows within the government (Vaidya *et al.*, 2006). A fully implemented e-GP system has both government-to-business (G2B) and government-to-government (G2G) system communities knitted together. However, it can be noted that the end-to-end e-procurement conceptualisation is a misrepresentation of e-procurement reality across organisations (Nani & Ali, 2020). E-procurement is an end-to-end system; however, besides the popularity of end-to-end connotation, this stage is highly unattainable (Bulut & Yen, 2013). Across the supply chain organisations, adopt either one or more of the forms of e-procurement to effect public procurement which can be e-tendering, e-auction, or e-bidding among others. Therefore, the current reality of the use of e-

procurement is only associated with various stages of the procurement process which will be executed electronically (AfDB, 2016).

Furthermore, Chan and Owusu (2022:11) underscore that it must be emphasised that e-procurement is not a form or method of procurement, but the execution of any of the mentioned forms of procurement over a network system. However, this view construes the e-procurement process to the buying organisation or government, agency, or department in the case of e-public procurement. Therefore, the ABD (2018:6) underscores that the implementation of e-procurement automates the internal and external processes associated with the procurement function, including supplier selection. An e-procurement platform or system has to enable an organisation to connect directly with suppliers to enable the purchase of goods and services at the lowest possible cost. Rotich and Okello (2015:3082) submit to this view by alluding that an e-procurement system is not only for the agency or developer of the system, but also for the providers of services and the general public who want to exercise oversight over the process. The scope of e-procurement is wide, it is not only related to the purchasing function, but includes the use of electronic negotiations and decision-making on contracts and suppliers. Thai (2017) conclusively underscores that e-procurement presents a migration of procurement functions toward the internet to facilitate a seamless end-to-end stream of procurement activities by establishing a connection within the supply chain.

Chan and Owusu (2022:3) define e-procurement under the generic construct of e-commerce. According to *ibid* (2022:3), e-procurement is the business-to-commerce, business-to-business, and business-to-government purchases as well as sales of goods and services and works via the internet. This definition does incorporate the supplier perspective which could be another government agency or department or a private player. For e-procurement to be effective, government supplier adoption is key. Therefore, e- public procurement is the process by which government acquires the goods, construction works or services needed for its operations from outside service providers (the outside service providers generally being the private sector) via electronic means, usually the Internet (Schoenherr & Tummala, 2007:8). This study conceptualises e-procurement as the execution of all or some of the

procurement activities between an organisation and its suppliers through digital technologies and the internet.

2.7 THEMES EMERGING FROM E-PROCUREMENT CONCEPT

2.7.1 E-procurement as a policy innovation

The public sector context has been continuously faced with service delivery challenges that have compelled organisations to adopt new innovative ways of handling government business. Driven by the imperative to increase productivity in times of austerity, countries are investing in innovative tools to streamline procurement procedures and achieve greater value for money from procurement spending (OECD, 2013:132). E-procurement, along with its cost efficiency gains, has been one of the innovative processes adopted to enhance procurement governance. It is conceptualised as an ICT-driven innovation according to the OECD (2013), while Nani and Ali (2020:34) use the term “e-government innovation”. Innovation in the public sector refers to the creation, fostering, and diffusion of new ideas, processes, structures, and systems, and the goals embodied are typically to improve cost-efficiency, and citizen satisfaction in service delivery (de Vries *et al.*, 2016). Likewise, e-procurement seeks to achieve similar goals to other public policy innovations by reducing costs to the government, reducing administrative burdens, shortening procurement contract cycles, and raising compliance levels (OECD, 2013:132). Barahona and Elizondo (2012:107) add that e-procurement brings a set of new rules and dynamics that create ways of doing business with the state in a different fashion, with a whole new and bigger set of participants.

E-procurement has been further categorised into several types of innovation across the literature. De Vries *et al.* (2016:13) describe e-procurement as a process innovation while Misuraca (2015) emphasises that it is a radical innovation. Process-oriented innovations relate to the improved quality and efficiency of administrative processes through new working methods (de Vries *et al.*, 2016). Damanpour (1991) asserts that radical innovations produce fundamental changes in the activities of an organisation. The radical nature of e-procurement is expressed in Sheng’s (2012) definition that e-procurement should not only be considered as the re-engineering of old manual processes, but as the re-engineering of the process

itself as cited by Barahona and Elizondo (2012). Changing the traditional pattern of public procurement for an electronic paradigm is a radical innovation involving major organisational changes, the breaking up of traditional processes and practices, and the obsolescence of knowledge and skills (Soares & Carvalho, 2017). Barahona and Elizondo (2012:111) further add that e-procurement brings a new set of rules that create new ways of doing business with the state in a new and different fashion as well as efficiently. Drawing from Baharona and Elizondo's (2012) definition, e-procurement can be conceptualised both as a process as well as a radical innovation as it exhibits features of both types of innovation.

2.7.2 E-procurement as a good governance tool

Shakya (2015:563) contends that governments around the world are taking the introduction of the e-government procurement (e-GP) system as the solution to tackle the complexities of today's procurement requirements of the governments. This in turn is taken as the magic tool for modern intervention for good governance in the public procurement sector. The UN (2015) provides for characteristics of good governance and these can also shape procurement governance. Good governance is participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and follows the rule of law. In addition, in line with the tenets of good governance, the adoption of e-procurement can enhance timely and transparent service delivery whilst minimising the costs of the whole process (Neupane *et al.*, 2012; Ahmad *et al.*, 2021; Shakya, 2015). It is based on this background that Kohli (2012:258) defines e-procurement as "conducting on the internet the equivalent of the manual tendering process, with the ostensible objective of enhancing transparency and efficiency of public procurement". In terms of responsiveness, e-procurement enables the government to access competent suppliers which promotes the acquisition of quality goods and services in an efficient manner (World Bank, 2016; ADB, 2013). Neupane *et al.* (2012) postulate that e-procurement can be used as a tool to address the public sector, there this fosters good governance in terms of improved value for money, integrity, and transparency.

2.7.3 E-procurement as a public procurement reform

E-procurement has been at the forefront of procurement reform worldwide (Hardy & Williams, 2008; Neupane *et al.*, 2014:21). The ADB (2013), citing the ADB (2004), underscores that public procurement reform may equally be the process of attempting to "fix" problems that have engulfed the public procurement system. Hence, a reformed system can be perceived as one that has a streamlined procurement process through greater use of e-commerce. A different view is provided by Basheka (2008:140) who alludes that public procurement reforms can be defined as policy attempts at changing organisational, institutional, and legal structures that manage the public procurement process. The ultimate goal is to improve the conduct of the procurement process indicating a major shift from traditional systems and processes to new responsive systems and processes. In line with the above, the World Bank (2006:23) presents the idea that e-procurement needs to be understood as a tool to underpin reform in public procurement, rather than being a technological add-on to an already complex environment. The introduction of an e-procurement system as postulated by the ADB (2013) will affect procurement practices and rules and could present a significant change in the operational procedures for procuring agencies and supplier chains. Therefore, e-procurement focuses on transforming systems incapable of achieving government procurement objectives into those systems with the capacity to achieve the objectives (Reddick, 2004).

Public procurement professionals, as postulated by Thai (2009:3), have faced a constantly changing environment typified by rapidly emerging technologies, increasing product choice, environmental concerns, and the complexities of international and regional trading agreements. In light of these realities, according to Egorova *et al.* (2021:68), organisations have to employ recent digital technology developments that allow integrated e-procurement solutions covering the whole public procurement cycle. However, one of the most prevalent misunderstandings by governments is to consider e-procurement as a technology project and fail to appreciate that the true value of e-government procurement's capacity to facilitate procurement process reform (ADB, 2018:18). The adoption of ICTs strengthens systems, processes, and people involved in the procurement process to perform

functions of delivering efficient and effective and efficient services (Reddick, 2012; Thai, 2017).

2.7.4 E-procurement as an e-business tool

New e-commerce technologies emergence promised to revolutionise working practices, threaten existing businesses and potentially create new ways of conducting business by the government. E-procurement is a key element of the business to business (b2b) e-commerce which reflects an application of e-commerce technologies to support an organisation's purchasing activities (Ilhan & Rahim, 2020:183; de Boer *et al.*, 2002:120). It is a key component of e-business (allows business-to-business and business-to-customer across the internet) and e-commerce (World Bank, 2012). From Hardy and Williams' (2014) perspective, e-procurement is viewed as a value-added application of e-commerce solutions to facilitate, integrate, and streamline the entire procurement process. Therefore, e-procurement implies that all communications, transactions, and exchanges between suppliers and buyers are done electronically through digital tools like the web. It enables government departments or agencies to identify potential sources of supply, purchase goods, and interact with suppliers on the web (Neef, 2001) which simplifies commercial transactions and reduces the costs of doing business.

2.8 FORMS OF E-PROCUREMENT

As the scope of the procurement function is too broad encompassing such activities as negotiation, sourcing, and ordering, among others (Croom & Brandon-Jones, 2007), a wide range of IT-enabled e-procurement systems are available in support of those activities. It is important to note that various forms of e-procurement concentrate on one or many stages of the procurement process or different segments of the procurement cycle. In this regard, an organisation can adopt one or more of these forms of e-procurement in performing procurement functions. De Boer *et al.* (2002:319) established several forms of e-procurement available in literature which are e-ordering, e-tendering, e-informing, e-sourcing, e-reverse auction, and web-based ERP.

2.8.1 E-ordering

E-ordering refers to the process of requesting goods or services across the internet (de Boer *et al.*, 2002; Corina, 2011:689). In the case of e-ordering, the goods and services ordered are indirect goods and services (non-product-related goods and services). In conducting e-ordering, supporting software based on internet technology is used by employees of an organisation to place orders for products and services that are required. Therefore, e-ordering focuses on several processes which include the creation and approval of purchasing requisitions, placement of orders, and receiving the goods and services. E-ordering solution is advantageous since it enables the business to reduce costs, increase productivity, and improve customer service thus improving supply chain performance. It is also beneficial as it provides information on the purchasing behaviours of employees because it leaves a trace of evidence of the demand for goods and services in an organisation.

2.8.2 E-sourcing

E-sourcing is the process of determining long-term demand requirements for goods and services and identifying potential sources to fulfil those requirements in a faster and more efficient way (Wahid, 2012). It involves the use of internet-enabled applications and decision support tools that facilitate interactions between buyers and suppliers through the use of online negotiations or similar tools (de Boer *et al.*, 2002). Therefore e-sourcing enables an organisation to identify bids for the supply of goods and services easily across the web or even identify new suppliers along the way. It allows an organisation to manage suppliers' performance using Internet technologies, intending to decrease search costs (Lysons & Farrington, 2012). E-sourcing has made it possible and convenient for organisations to reach out to more suppliers at no extra cost since negotiations and other procedures can be done across the internet or portal. Sourcing online also helps to improve internal customer satisfaction as it improves worker collaboration since web-based applications would be accessible to all departments in an organisation (Kanyambo, 2017:21).

2.8.3 E-tendering

E-tendering solutions are used to procure specialised works, goods, and services characterised by high-value and low-volume transactions. Neupane *et al.* (2012:30)

established that e-tendering concerns the process of sending requests for information (RFI) or requests for quotation (RFQ) to suppliers and receiving feedback from suppliers. With an e-tendering system, all the contracting agencies can open tender requests to get participants through the easy electronic system and submit their tender request to participants for tender digitally by signing into a portal (Siddique *et al.*, 2020:206). E-tendering does not include closing the deal with a supplier; however, it allows the analysis and assessment of responses from several prospective suppliers. Therefore, it smoothes a large part of the tactical purchasing process without focusing on the spending categories of that process as alluded to by Van Weele (1988) cited by de Boer (2002). E-tendering thus brings efficiency to public procurement as it reduces tender cycle time, reduction of manual tasks, and recording and distribution of tender submission. Publication of tendering notices in a centralised web portal allows suppliers to search and locate tender opportunities with minimal effort (ABD, 2018:14). Tender documents are easily accessible online which creates competition and allows an organisation to choose from a wide pool of suppliers (Siddique *et al.*, 2020:206).

2.8. 4 E-Reverse auction

The term “reversed” auction reflects that the seller’s rather than the buyer’s bid and that the goal of the auction is to drive the price down. According to Mphehle and Mudongwa (2021:20), e-reverse auction is when suppliers bid and compete fairly in the selling of goods and services. The buying organisation has the option to weigh, compare between several bids and accept the one that suits it out at an acceptable value. An e-auction as a market can exist in both business-to-business and business-to-consumer contexts where suppliers offer goods and services through a structured process for process settling and fulfilment. This promotes transactional efficiency as the process reduces the time to engage in face-to-face negotiations through competitive negotiations. In some contexts, reverse auction can also enable the buying organisation to control the market by posting the items they wish to buy and the prices they are willing to pay while suppliers compete to offer the best prices. Hence, it enables purchasing companies to buy goods and services that either have the lowest price, or a combination of the lowest price and other conditions (de Boer *et al.*, 2002). A reversed e-auction allows an organisation to buy goods and services

needed from several known or unknown suppliers at competitive prices (Van Weele, 2005).

2.8.5 E-informing

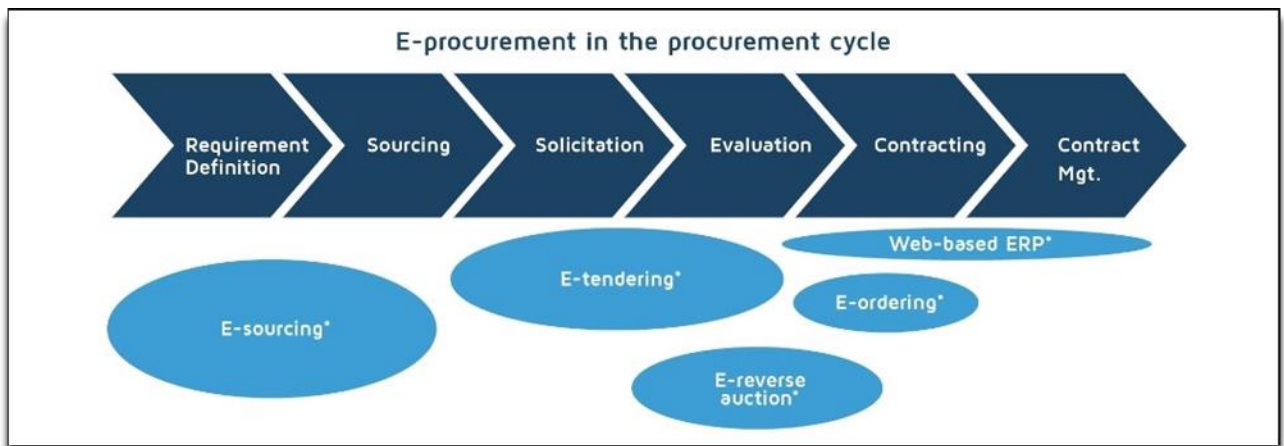
E-informing refers to the gathering and distribution of purchasing information both from and to internal and external parties using Internet technology (Corina, 2011). It involves an organisation electronically notifying potential suppliers of a future tendering opportunity and this is facilitated through an online notification system. This form of e-procurement is not directly associated with any step in the basic procurement process. It could be, for example, publishing purchasing management information on an extranet that can be accessed by internal clients and suppliers (de Boer *et al.*, 2002). In e-informing, the use of IT enables more information to be more widely distributed, and in terms of the ability to offer access to large catalogues of suppliers, the range of products and services available to employees is reported to have provided far greater range flexibility as mentioned by Evans and Wruster (2001) as cited by Corina (2011).

2.8.6 Web-based ERP

DeBoer *et al.* (2002) define this system as a platform that allows buyers and suppliers to interconnect and share information and knowledge using the internet and web browsers. An ERP is also useful as well within an organisation because it helps integrate internal functions and information allowing employees to have real-time access to information. Nonetheless, the main effort of an ERP implementation is to combine as many functionalities as possible into a single, integrated one. Thus, web-based e-procurement has become an important business avenue for the improvement of inter-organisational process efficiency (Tai *et al.*, 2009). Therefore, ERP software can allow the integration of applications for human resources, finance, accounting, and procurement within an organisation. In the case of public procurement, an ERP can be established to meet specific needs of procurement. Thus, it adds significant advantages from reducing purchasing process costs, reducing purchasing time, and developing better communication among key partners (Hung *et al.*, 2014).

Below is a graphical presentation of the e-procurement flow process in the procurement cycle which indicates several e-procurement dimensions as established by deBoer *et al.* (2002).

Figure 2.1: E-procurement in the procurement cycle



Source: (CIPS, 2013)

2.9 THE SIGNIFICANCE OF LOCAL GOVERNMENT E-PROCUREMENT

In practice, the local governments are the lower tiers of government closest to the people delegated with the administrative purpose of supplying goods and services (Marumahoko *et al.*, 2020:23). Thus, local government can be defined as the decentralised formulation and implementation of local interests through promoting efficiency, accountability, manageability, and self-government (Shah & Shah, 2009:3).

The key functions of local government are illustrated by Pugalis and Tan, (2017:13-14) as the provision of:

- Infrastructure and property services, including local roads, bridges, footpaths, drainage, waste collection, and management.
- Recreation facilities, such as parks, sports fields and stadiums, golf courses, swimming pools, sports centres, halls, camping grounds, and caravan parks.
- Health services such as water and food inspection, immunisation services., toilet facilities, noise control, meat inspection, and animal control

- Community services such as childcare, aged care and accommodation, and community care services.
- Building services. Including inspections, licensing, certification, and enforcement planning and development approval.
- Administration of facilities such as airports and aerodromes, ports, marinas, cemeteries, parking facilities, and street parking.
- Cultural facilities and services such as libraries, art galleries, and museums.
- Water and sewerage services in some states.

In consideration of these several functions, local government plays a critical role in serving the service delivery needs of local communities. Nonetheless, as local governments derive their usable power from central or federal governments, they are identified as handmaidens of higher government orders (Shah & Shah, 2009:6). This is to say local government is an extension arm of government to determine for implementation of policy development, standards of service delivery, and policy performance that are remotely determined at the national level. Hence, Bofo *et al.* (2020:238) underscore that procurement processes are at the centre of most governmental administration in both developed and developing countries. Recent government initiatives have aimed not only to raise the standards and capacity of national and local public procurement, but also to harness the purchasing power of the public sector to drive innovation and support wider government priorities and other policy goals (United Nations, 2012).

Given that, the local government is at the frontline of the service delivery needs, such a role is hinged upon the procurement capability of the local entities. Therefore, e-procurement provides several opportunities for improving procurement functions at the local government level. Chen *et al.* (2021) indicate that e-procurement implementation offers to strengthen the local government's strategic roles of providing services at the local level. Nawi *et al.* (2016:331) established that e-procurement contributes to significant cost savings and reduced efforts in processing orders. Hence, with the increase in the volume of procurement of goods, works and services due to a parallel growth in the economy, e-procurement serves to instil

accountability and transparency in the public sector (Khan, 2018:3). E-procurement offers opportunities for local government to revamp their procurement functions to induce positive service delivery outcomes.

2.10 E-PROCUREMENT IMPLEMENTATION DYNAMICS IN THE PUBLIC SECTOR

E-procurement has become a global phenomenon and countries have embraced this innovation to streamline public procurement. Although e-procurement was adopted by the private sector first, it has drawn great attention within the public sector, its drivers being the need to improve procurement administration (Bulut & Yen, 2013:4). Hence, Vaidya and Campbell (2014:1) underscore that the past few years have seen an increase in popularity of e-procurement systems in that governments in both advanced and emerging economies have committed to e-procurement initiatives as part of their e-government agendas. In the context of developing countries, Kabanda *et al.* (2019:234) underscore that e-procurement is currently receiving attention as a result of the potential perceived benefits that arise from successful technological implementation. Masudin *et al.* (2021:2) cement this view by elucidating that “the application of new technology in procurement activities in developing countries has become a vital issue regarding management and information technological infrastructure”. Hence the objective of the implementation of e-procurement in the public sector is the reformation process of goods and services procurement (Nurmandi & Kim, 2015:200).

The implementation of e-procurement has experienced explosive growth in some organisations, while others have resisted its assimilation over the last several years according to Vaidya and Campbell (2014:2) citing Minhan (2005). Several governments have launched or are in the planning stages of launching e-procurement systems as one of their e-government initiatives, however without much progress in the implementation phase (Nawi *et al.*, 2016). Bulut and Yen (2013:5) are of the view that e-procurement solutions implemented in use in the public sector vary from the simplest form of e-journals and web portals to complex solutions like e-tendering. However, the World Bank (2017) underscored that besides e-procurement being embraced by many countries several of them have only reached the e-tender submission stage. Additionally, beyond the use of websites to publish procurement

notices, the most popular procurement procedures used by procuring entities remain the traditional paper-based procurement procedures, which are time-consuming and convoluted (Chen *et al.* 2014).

Moreover, Chan and Owusu (2022:2) assert that some organisations are finding it hard to catch up with the ongoing advancements, while others are yet to begin the journey as some government institutions particularly in developing countries still resort to the manual approach to procurement. Therefore, Vaidya and Campbell (2014:234) underscore that one of the most important challenges for organisations is how to best assimilate the new technologies to obtain expected organisational efficiencies. Aduwo *et al.* (2016) postulate that the uptake of e-procurement technologies and processes has been phenomenal in the developed countries whilst its uptake in the developing world has been slow and low. However, Moon (2001:2005) argues that the issue of slow adoption of ICT is not only inherent in developing countries but within the public sector context in general. Macmanus (2002) is of the view that the diffusion of e-procurement at state and local government levels has been slow and incremental. Further, the lagging behind the state in e-procurement implementation can be justified by its characteristic of risk aversion (Barahona & Eli, 2012:107). Therefore, public sector organisations tend to be late adopters of new technologies and are perpetually behind the technology diffusion curve. In addition, Neef (2001) is of the view that part of the problem is that in most organisations the procurement process is still seen as tactical rather than strategic, as a cost rather than a benefit to the organisation. Considering the risks of introducing e-government, it should be underlined that most e-government projects, both in industrialised and developing countries, fail either totally or partially (Heeks, 2003).

Moreover, despite the importance of e-procurement, literature evidence suggests that the implementation of e-government procurement has remained problematic and constrained in the public sector generally, and in developing countries specifically. Vast studies have established that e-procurement implementation in developing countries is lagging due to multi-faced challenges. According to Masudin *et al.* (2021:3), the implementation of e-procurement has been discussed from the perspective of procurement businesses. This implies that very little attention is paid

to government organisation and capacity building for e-procurement implementation (Khan, 2018:4). The obtaining situation is the challenge on how to transform from administrative focus government to customer or external stakeholder since the government is very slow or unprepared for the transformation. Hu *et al.* (2003:6) assert that the major challenge in e-government implementation is the contradiction between the rapid change of technologies and the existing operational mechanisms of government. This is because technological changes are becoming faster while organisations and governments are not moving at the same pace in terms of their operating philosophy. Most studies undertaken in developing countries establish low levels of e-procurement adoption (Aduwo *et al.*, 2020; Afolabi *et al.*, 2019; Adebayo & Evans, 2014). The generic findings were established indicating challenges to the availability of reliable and secured electronic systems and applications, the cost of Internet services, a lack of IT skills, and ICT infrastructure.

More so e-government procurement implementation in the public sector suffers from limited levels of readiness. The public sector context is associated with slow development in ICT growth, limited resources for system acquisition as well as limited skills (Vaidya *et al.*, 2008). Adjei-Bamfo *et al.* (2020) examined e-procurement readiness in Ghana. The study established that the current public sector e-procurement process in Ghana was partly electronic, its procurement system combines paper processes at certain stages. Gil-Garcia *et al.* (2018) underscore that a great challenge for the global society is to figure out how to harness the power of computer-based ICTs to raise the ability of governments in developing countries to govern, serve its citizenry and, ultimately, improve the human development conditions for its people. Therefore, the pace of the implementation of public procurement reform is largely dependent on how a government organises itself and addresses the capacity-building needs of government agencies and public officials to manage, conduct, and control procurement (Khan, 2018:3).

2.11 THEORETICAL FRAMEWORKS

This section reviews the main theories informing this study. These have been derived from the supply chain management, public administration, and information systems studies to provide a balanced analysis of the research problem. Vaidya and Campbell (2014:234) underscore that e-procurement is interdisciplinary; therefore,

Digital Era Governance Theory, Diffusion of Innovations Theory and Technology, Organisation and Environment Framework were key theoretical models for the study.

2.11.1 The Digital Era Governance Model

The Digital Era Governance (DEG) model was postulated by Dunleavy *et al.* (2006) to describe the centrality of Information Technologies (IT) and information systems (IS) changes in public governance. This model of governance was introduced within the public management discourse as a predecessor of the New Public Management (NPM) model. Elements of DEG involve a natural reaction to widely perceived deficiencies of NPM. Margetts and Dunleavy (2013) underscore that the erstwhile dominant academic 'quasi-paradigm' of 'NPM' marginalised technological changes in favour of a managerialist emphasis on organisational arrangements and strong corporate leadership. Thus, Bialozyt (2017:1) contends that DEG embraces the permeation of government by the culture of the internet which has had an impact on the internal organisation of government (Margetts & Dunleavy, 2013). Thus Bialozyt (2017:124) purports that it is in this context that the Digital Era Governance (DEG) concept emerged as a model of public management consisting of the whole set of internet-related changes and a centrality in the role of digital technologies.

Further, Margetts (2009:127) underscores that those digital technologies take centre stage in public management through their pervasive impact on society which will enable large technological innovation to drive bureaucratic reform in the future. Thus, Torfing *et al.* (2020) purport that DEG is a digitally enabled response to the need for continued efficiency gains and the need to ensure service quality for the citizenry through the integration of service and the adoption of a more holistic perspective. Faridian (2015:19) further argues that the dynamic environment of governments, caused by the rapid pace of technological developments demands changes to traditional bureaucratic organisational structures. This is because the slow process of bureaucracy tends to hinder timely response to rapidly changing environmental demands. Therefore, the NPM has been superseded and overtaken by the demands of web-enabled government (Margetts & Dunleavy, 2013). This is due to the understanding that in the 21st century, organisations depend on the quality of their online presence in the digital world to ensure the smooth functioning of

administrative mechanisms (Meijer *et al.*, 2018). Hence, the DEG framework evaluates the organisational change enabled by technologies. The core argument is that technology per se does not change organisations, rather the way organisations work and use their technologies changes work practices.

Pollitt and Bouckaert, (2004) underscore that new technologies and competitive pressures from economic globalisation have each influenced the shifting conceptions of the role and functioning of the public sector as cited by Pollit and Bouckaert (2017). Therefore, DEG challenges public administration to promote simplification, automation of administrative setup, and enhanced flexibility in service (Biazolyt, 2017). Thus, the idea at the core of DEG is to draw the full consequences of the digital revolution of ICT for the development of public service delivery (Dunleavy *et al.*, 2006). Margetss and Dunleavy (2013) postulate that DEG replaces the NPM as the conceptual framework for promoting government efficiency and service delivery. This is because the mere digitisation of bureaucratic procedures has no longer been delivering recognisable results (Bialozyt, 2017). Margetts and Dunleavy (2013:270) identify three themes associated with the DEG model of governance which are reintegration, digitilisation and needs-based holism. Reintegration stresses the creation of a new central government process which enables processes to be done once. According to Dunleavy (2007), the focus is to join up disintegrated public sector processes by driving out duplicate organisational hierarchies. This equally serves to reduce costs as well as simplify organisational services. “Needs-based holism” refers to an attempt to implement the end-to-end redesign of services from a client perspective; to put in place one-stop processes and to create agile and resilient government structures, that can respond in real-time to problems, instead of catching up with them only after long lags (Margetss & Dunleavy, 2013). Digitalisation covers the adaptation of the public sector to completely embrace and embed electronic delivery at the heart of the government business model, wherever possible (Dunleavy *et al.*, 2006: 481; Pollitt & Bouckaert, 2017: 125).

The DEG model has been a product of new governance discourse and the emergence of digital possibilities. According to Dunleavy (2007:416), there has long been a significant divorce in the public management field between the practical and

empirical centrality of IT and information changes. Most important is the fact that the role of IT has been largely overlooked by recent generations of researchers and theorists of public service organisations (Margetts & Dunleavy 2013). In this sense, Meijer *et al.* (2018:6) purport that the impact of technology on the public sector is substantial, but it is still neglected in many current studies of changes in public administration. Various models have explored the changes in policy frame from the Traditional Public Administration, to New Public Administration and more recently the New Public Governance Model with no attention to the changes in the core technologies of governance: the systems for processing information and communication (Meijer *et al.* 2018). Hence, Dunleavy *et al.* (2006: 467) stress the importance of these changes in the use of technologies in government: “we set out the case that a range of connected and information technology– cantered changes will be critical for the current and next wave of change, and we focus on themes of reintegration, needs-based holism, and digitisation changes”.

Torfing *et al.* (2020:89) underscore that DEG emphasise on the role of digitalisation in public service delivery and claim that digitalisation has deeper implications for the public sector than was previously understood. Proponents of DEG argue that the impact of IT elements in shaping changes within the public administration discipline has been in existence since several decades ago. Hence, Dunleavy *et al.* (2006) emphasise that IT and information system influences are as salient in current public sector management as they were fundamental in contemporary Weberian rationalisation processes. However, the waves of IT change that occurred in the 1990s had a very limited transformative impact on public governance (Margetts & Dunleavy, 2013). Hence, government agencies during this period became highly dependent on their IT infrastructures, but this did not shape their modes of operating as much as might have been expected. Franda (2002) is of the view that what is different in the current period is the growth of the Internet, e-mail, and the Web and the generalisation of IT systems from only affecting back-office processes to conditioning in important ways the whole terms of relations between government agencies and civil society. This is supported by Dunleavy *et al.* (2006) who connote that DEG represents the central importance of IT-based changes in management

systems and in methods of interacting with citizens and other service users in civil society in the underpinning and integration of current bureaucratic adaptations.

Furthermore, Margetts and Dunleavy (2013) postulate that digitisation is the driver of ICT-enabled transformation and DEG. Dunleavy *et al.* (2006) suggest that effective reform through e-governance must take into account reintegration, needs-based holism, and digitisation. These three themes, they posited, will generate opportunities to reform governments by connecting technology to organisational, cultural, and social reform. Devries (2018:2) is of the view that DEG combines two modes of thinking. Firstly, it presents technological developments and possibilities within public organisations as a consequence of the ICT revolution. Secondly, DEG offers a perhaps unique opportunity to create self-sustaining change, in a broad range of closely connected technological, organisational, cultural, and social effects. The 'digital by default' ideal of DEG makes information and data strategic and places them at the core of innovation and change (Margetts & Dunleavy, 2013). This implies that digital technologies have had implications or effects on the relationship between governments and citizens as well as organisational service delivery models.

Given the foregoing, Misuraca *et al.* (2019:20) underscore that DEG should entail a reworking of the relationship between the citizen and the state, due partly to its inherent tendency to make transactions more transparent. The DEG model can be adopted to enhance an understanding of the transformative effect of digital technologies on the public procurement function. The internet influences how governments operate, and how citizens interact with their governments, as well as changing the role government plays in society (Białożył, 2017:123). Therefore, the emergence of digital technologies has revamped government procurement functions to enhance efficiency in internet processes. In light of this, Torfing *et al.* (2020) argue that DEG is not merely a tool for enhancing administrative efficiency in the back office but it can also help to reintegrate fragmented public and private service-delivery agencies and provide more holistic service to citizens. ICTs and information systems play centrally in a wide-ranging series of shifts in how public procurement activities are structured as business processes and delivered to citizens as customers. This new society inspires governments to change their approach to providing services to the public, as they turn their attention to DEG (Dunleavy *et al.*,

2006). According to Bialozyt (2017:124), what distinguishes the transformational role of the Internet is its fundamental impact on various spheres of relations between governmental institutions and citizens and civic organisations. Henceforth, the expansion of the internet not only brings a technological effect, but also delivers a broad range of behavioural, cognitive, organisational, political, and cultural changes related to the digital revolution. Therefore, the DEG framework provides a theoretical basis for examining the transformation brought across public sector functions (in this study public procurement) with the application of digital technologies as a key determinant.

2.11.2 Diffusion of Innovation Theory

The Diffusion of Innovation Theory (DOI) was first discussed historically in 1903 by the French sociologist Gabriel Tarde (Toews, 2003) who plotted the original S-shaped diffusion curve, followed by Ryan and Gross (1943) who introduced the adopter categories that were later used in the current theory popularised by Everett Rogers. Rogers (1995) adopted the DOI to identify and analyse factors that affect Information System (IS) process innovation adoption. The theory is underpinned by two keywords: diffusion and innovation. Diffusion is defined by Dearing and Cox (2018:183) as a social process that occurs among people in response to learning about innovation while innovation implies a new idea. Rogers (2003), cited by deVries *et al.* (2014:3) postulates that diffusion is "the process in which an innovation is communicated through certain channels over time among the members of a social system". Kaminski (2011) contends that the process of diffusion of innovation relates to the situation where human beings adopt new philosophies, ideas, practices, and products. Further, *ibid* (2011:1) underscores that the theory is often regarded as a valuable change model for guiding technological innovation where the innovation itself is modified and presented in ways that meet the needs across all levels of adopters.

DOI provides a foundation for understanding the multiple aspects and elements of the adoption of innovations ranging from characteristics of the innovation itself to the decision-making process carried out by an individual, to the role and influences of the societal and cultural contexts (Miller, 2015:269). Understanding how and why

organisations adopt, implement IT innovations and the knowledge of underlying factors that manipulate the organisational adoption of IT helps businesses to more effectively evaluate their IT implementation more. In the process of innovation diffusion, Rogers identified five types of adopters which include, innovators, early adopters, early majority, late majority, and laggards. Innovators are the first to adopt new technologies because of excitement over novelty and feeling unconstrained by social norms (Rogers, 2003). According to Rogers (1985), the early majority adopts the innovation just before the other half of their peers adopt it. Dearing and Cox (2018:4) establish that early adopters do so because of a measured appraisal that an innovation's advantages outweigh its disadvantages. The early majority are compelled to adopt innovations due to mounting social pressure to do so while the late majority refers to the group who wait until most of their peers adopt innovation. The late majority are usually sceptical about innovation and its outcomes; therefore, they become hesitant to embrace innovations. Laggards according to Rogers (2003) have the traditional view and they are more sceptical about innovations and change agents than the late majority. When the diffusion is complete, new behaviours, products, and ideas are adopted by human beings within the social system (Rogers, 2003).

The DOI theory stresses the relevance of peer networking and communication within the process of adoption as indicated by Dearing and Cox (2018), citing Rogers (2003). The key to the adoption process is how human beings perceive new or innovative behaviours, ideas, and products as useful. Rogers (2003:232) introduces five characteristics of diffusion of innovation which include trialability, compatibility, complexity, relative advantage, and observability. Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes and compatibility is the extent to which an innovation is relatable with existing practices and values. Complexity is the degree to which an innovation is perceived as relatively difficult to use and understand (Rogers, 2003). According to Sahin (2006:5) in DOI, technology adoption results from attributes focused on technology such as relative advantage, how compatible the system is, and how simplified the system is. Moreover, studies on DOI have found the relative advantage and compatibility attributes as positively related to technology adoption (Mairura *et al.*, 2020; Ocloo *et*

al., 2018) while complexity has been consistently found to be negatively related to the adoption of innovation (Sahin, 2006; Alsaad *et al.*, 2017). In summary, Rogers (2003) argued that innovations offering more relative advantage, compatibility, simplicity, trialability, and observability will be adopted faster than other innovations.

The DOI provides a theoretical basis to examine e-procurement implementation at the local government level. It helps to ascertain how diffusion attributes like relative advantage, and compatibility influence the implementation of e-procurement systems within the public sector context. The perceived benefits and relative advantages of implementing e-procurement like efficiency, cost reduction, and reduced lead times have driven the adoption of technologies in public procurement. According to OECD (2017), ICT enabled functions like e-procurement initially gained dominance within the private sector in developed countries. However, with the advent of globalisation, ICT usage has diffused to developing countries, especially in the public sector context (ADB, 2013; World Bank, 2012). Rogers (2003) mapped out this process, stressing that in most cases, an initial few are open to the new idea and adopt its use and over time the innovative idea or product becomes diffused amongst the population until a saturation point is achieved. Mirroring the successful e-procurement uptake in the private sector, the decision-makers have begun to realise and understand the significance of e-procurement within the public context (MacManus, 2002; Croom & Brandon-Jones, 2005). This is one of the key components of the DOI which indicates that when a new idea or product is discovered, only a few individuals embrace it, and over time through communication adoption levels increase within a social system.

According to de Vries *et al.* (2018:3), when addressing the question of how innovations can be successfully implemented in public organisations, a crucial distinction that is often made in the innovation literature relates to the two stages of the innovation process. Here, the development of new ideas and practices, that constitute a transformative discontinuity with the past, is distinguished from the diffusion and adoption of such practices that have been developed elsewhere (Damanpour, 1999; Rogers, 2003). E-procurement implementation has a transformative effect on public procurement as it is associated with a move from

traditional vertically siloed procurement processes to horizontal processes. Damanpour and Schneider (2009) identify particular characteristics, such as the cost of the innovation, its complexity, and its likely impact as important in shaping their likelihood of implementation. According to Vaidya *et al.* (2005:374) as cited by Brammer and Walker (2012), the adoption of e-procurement as an innovation generates uncertainty therefore, the procurement organisation must be aware of the relative advantage and risks of implementing such innovation.

In line with the foregoing discussion, De Vries *et al.* (2016) find that slack resources (time, money, ICT facilities), leadership styles, room for learning (that is risk allowance), and incentives (like innovation awards) as most commonly associated with innovation adoption, much of which is echoed by comparative studies conducted by the OED (2017). Likewise, Damanpour and Schneider (2009:219) also find that the resources of an organisation being positively associated with innovation adoption, but unlike De Vries *et al.* (2016), they also measured organisational size and found a positive association (Borins, 2014), but found that a negative association with the political context, in particular, a dominant elected political authority as constraining innovation. Nevertheless, studies in most developing countries, particularly in Africa, have revealed common challenges and barriers to e-procurement adoption (Bawole & Adjei-Bamfo, 2020; Pitso *et al.*, 2018). The common challenges and barriers include the lack of perceived benefits of an e-procurement system among users and the diverse attitude of users toward e-procurement adoption (Pitso *et al.*, 2018:320). Therefore, the DOI theory can help to unravel determinant factors for e-procurement implementation and push and pull factors for its diffusion across the public sector context.

Despite the DOI being an important theory in examining technology adoption and implementation, the theory has several weaknesses. The DOI is often simplified to focus solely on an innovation disregarding the complex societal, cultural, and economic factors that determine how the product is adopted into a society (Miller, 2015). The DOI indicates the technology process through linear stages, however complex technologies do not disseminate in linear stages. The theory emphasises that innovation needs to surpass five critical stages to be implemented by a larger

audience; however, innovations are adopted within complex systems. In the context of the public sector, the diffusion of policy innovations is complicated and influenced by several factors beyond actor groups. DOI theory emphasises the technology viewpoint, covering only relative advantage, compatibility, complexity, trialability, and observability, which limits its explanatory power. Therefore, this study adopts the Technology Organisation Environment model which overcomes these constraints by adding the environment segment from DOI.

2.11.3 Technology Organisation and Environment Framework

The TOE framework was developed by Tornatzky and Fleischer (1990) as an organisational theory that helps in explaining several elements of a firm's context's influence on adoption decisions (Baker, 2012). It explores how the firm context influences the adoption and implementation of innovations (Tornatzky & Fleischer, 1990). The TOE framework perceives innovation adoption by an organisation as a multidimensional process including environmental factors, characteristics of the individuals and organisations that adopt the innovation, and characteristics and attributes of the innovation itself. The theory delivers solid theoretical support relating to the implementation of e-procurement an innovative technology in public procurement (Oliveira & Martins, 2011). According to Hassan *et al.* (2017:316), the TOE framework is particularly suitable for explaining e-procurement practice because of its emphasis on the inter-organisational environment. E-procurement is the use of information technology by organisations purchasing from other organisations (Kramer, 2016:2). Hence, for the adoption and use of e-procurement, the inter-organisational environmental context, along with the technological and organisational contexts, is highly relevant. These contexts present both opportunities and constraints for technological innovation.

In addition, the organisation aspect captures descriptive measures such as an organisation's business scope, top management support, organisational culture, and complexity of managerial structure among other aspects (Zhu *et al.*, 2003). Oliveira and Martins (2011:113) as well as Baker, (2012) underscore that in general terms the organisation context is perceived to be focused on how an organisation is internally structured and managed. These internal factors have a great influence on technology implementation readiness levels within an organisation. Organisational

context specifics which can be analysed include organisational size, resources (financial and human resources), managerial structure, and several factors that can influence technology implementation readiness. In the context of public procurement, these can include government regulations and policies, supplier levels of e-procurement adoption, human resources (skills), and availability of funds to support procurement. For instance, the availability of sufficient human resources equipped with IT skills can influence e-procurement assimilation levels within an organisation.

Awa *et al.* (2016:3) underscore that the environmental context relates to the operational facilitators and inhibitors; significant among them are competitive pressure, trading partners' readiness, sociocultural issues, government encouragement, and technology support infrastructures such as access to quality ICT consultants. More so, the environmental context looks at external factors affecting an organisation's readiness to adopt new technology. The environmental context of the TOE framework reflects the external characteristics of the business environment that account for the use of innovation (Tornatzky & Fleischer, 1990). It defends the idea that the environment in which the entrepreneur conducts business would determine their technology adoption decision. That is, the adoption of technology is associated with certain combinations of environmental characteristics that would play a part in the technology integration process). The environmental aspect is derived from the institutional theory in which institutional pressure is a key factor in environmental characteristics (Dimaggio & Powell, (1983) as cited by Baker, (2012). This theory states that environmental factors like institutional pressures drive firms to adopt innovations (Awa *et al.*, 2016). Institutional pressure defines the pressure that comes from the external environment that can persuade organisations to adopt general practices (Kabanda *et al.*, 2019).

TOE suggests that a business should consider the characteristics of the technological structure of its internal and external settings (Wang *et al.*, 2016) as cited by Chau *et al.* (2020). Zhu *et al.* (2003) opine that technology determinant describes adoption in terms of the pool of technologies internal and external to the firm as well as their perceived usefulness, technical and organisational compatibility and complexity. According to Hassan *et al.* (2017:234), the technological aspect of

the TOE framework is derived from Rogers' (2010) DOI theory. DOI theory suggests that organisations adopt and use innovation, such as new technology, when they perceive that there are potential benefits to using the innovation (Rogers, 2003). The emphasis of the technological context is on how technological features may influence the decision of adoption. These features include the following factors which are perceived benefits or relative advantages, perceived barriers, compatibility, perceived importance of compliance, complexity, trialability, perceived risks, and perceived ease of use (Oliveira & Martins, 2011). The technology aspect is relevant to the organisation as technologies that are already in use and those that are available in the marketplace set a broad limit on the scope and pace of technological change that an organisation can undertake (Baker, 2012).

The TOE framework has been a prevalent model in exploring several information systems issues. Empirical findings that employed the TOE model in the context of both the public sector and SME research confirmed that it is an appropriate framework that can be used to understand technology-based adoption (Ahmed *et al.*, 2018; Hassan *et al.*, 2017). According to Bwalya (2018:120), the TOE's strength lies in the fact that it is highly flexible and can be used in any environment. Due to the ever-evolving nature of technology, the TOE can be used to ascertain factors influencing technology adoption. E-government studies have linked new technology adoption with the TOE dimensions of the firm and provided a bigger sketch of the drivers influencing technology adoption (Baker, 2012). Therefore, the TOE framework has a robust theoretical basis, strong empirical support, and has been employed to investigate the adoption of new technologies (Ahmed *et al.*, 2018). According to Awa *et al.* (2016), unlike the DOI Theory which uses the constructs within organisation and technology contexts to explain adoption, the TOE stepped further to integrate the constructs of the environment. This provides superior strength over traditional models such as the DOI. The TOE is a valid model that has earned robust theoretical and empirical support as it proposes generic factors that provide more meaningful lenses for studying user's opinions about specific systems (Awa *et al.*, 2017:2). However, the theory has no globally defined constructs or measurable attributes, these depend on the user's interpretation (Bwalya, 2018:126). Despite this, there is no global model that can explain technology adoption in any given

situation, models are continuously modified to suit contexts hence the TOE remains a significant theory in exploring technology implementation.

2.12 CHAPTER SUMMARY

This chapter provided a conceptual analysis of e-procurement as a key component of the e-government agenda within the public administration discourse. The study subscribes to the idea that the advent of the internet and digital technologies has contributed to the improvement of areas of governance and one area is public procurement. Following that, the concept of public procurement was reviewed and key principles guiding this process were reviewed. This is critical since the procurement performance of an organisation is measured by considering the degree to which these principles are realised. A concise description of e-procurement forms like e-tendering, e-informing, and e-reverse auction was also provided. The significance of this chapter is that it provides an overview of themes that emerge across literature and this shapes how e-procurement is perceived within the public sector context. The study analysed e-procurement in the public sector indicating that implementation has faced challenges. Most government entities have adopted few tools for e-procurement implementation, mostly web portals due to low level of e-procurement readiness.

The theoretical framework underpinning this study was discussed in depth and these different theories have given a wider meaning and they contribute to the overall understanding of the research problem under study. The main theories that were discussed include the Diffusion of Innovation Theory (DOI), which guides the understanding of technology implementation within a social system while the TOE framework analyses technology adoption through examining the influence of contexts. The DEG model provides a theoretical perspective that explicitly accounts for the interplay between technologies and the public sector context. Chen *et al.* (2021:2) underscore that extant literature on governments' e-procurement adoption is tentative and exploratory, requiring both theoretical and empirical developments (Walker & Brammer, 2012). In addition, Malodia *et al.* (2021:2) underscore that lack of integration across disciplines within e-government literature has hindered the efforts of developing a comprehensive theory. Therefore, this study addressed these

gaps by advancing the use of theory in understanding e-government implementation in the public sector context.

CHAPTER THREE: RELATIONSHIP BETWEEN E-PROCUREMENT READINESS LEVELS AND PROSPECTS OF E-PROCUREMENT IMPLEMENTATION AT HCC

3.1 INTRODUCTION

E-readiness levels are closely tied to the success of e-government projects, henceforth this chapter investigates and also evaluates the aptitude of the HCC to participate in e-procurement reform. Adjei-Bamfo *et al.* (2020:1) underscore that notwithstanding the extant theoretical and empirical literature on IT for development, knowledge on how to assess readiness for adopting e-procurement is limited. Anderson and Henrkisen (2005:3) underscore that regarding organisational e-government readiness, it is still embryonic. Despite these drawbacks, the limited previous studies on e-government readiness present a predominant focus and skewness on technological readiness issues, while side-lining other issues like human factors, institutional and legal issues. For instance, Bwalya (2018:164) underscores that e-readiness is used to assess broadly the preparedness of an area to participate in the global information society which in many cases is hinged upon the utilisation of different types of technologies in accordance with the different socio-economic settings of an area. Relatively, Rahman *et al.* (2007:225) underscore that for a country to be ready for e-government, it must be ready in terms of infrastructure, and accessibility to ICTs. Alghamdi *et al.* (2011:11) argue that e-government readiness challenges at the macro level can be addressed by focusing on improving ICT infrastructure deployment, skills, and access.

In line with the above, Waheduzzaman and Miah (2015:6) citing studies by Karusena *et al.* (2011) as well as Azab *et al.* (2009) indicated that these previous e-government studies focus on the appraisal of technological issues in terms of e-readiness. This adoption of limited methodologies in assessing e-procurement readiness results in unsuccessful implementation across the government (ADB, 2018; Koh *et al.*, 2008). Waheduzzaman and Miah (2015:2) underscore that the focus should be on a collaborative perspective when assessing e-government readiness, especially in a developing country context. Dzhusupova *et al.* (2010:3) contend that there is a lack of methodologies of e-government readiness for different levels of government. Henceforth, the uniqueness of this chapter is to explore e-readiness indicators specific to a local government context, from a multi-dimensional approach that incorporates technological, management, and environmental

methodologies. The achievement of high levels of e-readiness is being increasingly heralded as one of the top priorities for developing countries in e-government development (Dada, 2006:1).

An e-readiness assessment is crucial in defining priorities and specific actions for progressing to e-procurement (Mustafa *et al.*, 2016; ADB, 2013). The overall readiness for e-government applications including, more specifically, e-readiness in developing countries is far behind (Khan, 2020:21). Arguably, e-government procurement is an imported concept based on imported designs and it is diffusing slowly within Africa and other developing countries due to inadequate levels for e-readiness (Heeks, 2008; Schuppan, 2008). Although it is recognised that no one size fits all, best practices in addressing the challenges faced in the execution of e-procurement reform projects should be reviewed and where applicable adopted (United Nations, 2018). In this regard, the focus should be directed to understanding the existing infrastructure, human capital, laws, and online services and their implications on the level of e-government implementation in local government (ADB, 2018). E-procurement readiness predicts the outcomes of e-procurement implementation, investigation in this study is essential for the HCC as an entity that has failed to successfully implement an e-procurement system. This chapter presents a context-specific discussion of the views of key informants, specifically how they perceive e-procurement readiness and how it influences the prospects of implementing e-procurement systems. It is important to understand how e-procurement readiness is perceived by users, policy drivers, and practitioners and how they shape such understanding when adopting and implementing the same initiative.

3.2 TRACING PUBLIC PROCUREMENT REFORM IN AFRICA

Public procurement reforms set the stage for the adoption and implementation of e-procurement systems. This section offers a thorough investigation of public procurement reform broadly from an African perspective which helps in unfolding reform trends and methodologies. Elegbe (2014:13) underscores that tracing trends helps in exploring whether there is a move towards the harmonisation and congruence of procurement norms and practices in Africa. This study can weigh the sufficiency of public reforms in meeting daily public procurement challenges, this

way, public procurement reform means inducing a change strategy for improving the procurement performance of the public sector. According to Basheka (2021:117), public procurement across the globe has remained a central activity that defines the success of government policies in meeting public needs. In realisation of the strategic importance of public procurement in the national economy and the well-being of citizens, governments have given more priority to the reformation of the procurement processes. Basheka (2009:136-137) notes that public procurement reform advocates for a procurement system that puts in place a management style of realisation of government objectives through effective procurement governance.

There are diverse views on conditions that have pushed the public procurement reform agenda across governments in Africa. In addition, diverse approaches have been undertaken as part of procurement reformation in Africa which have improved procurement governance to some extent. Bawole and Adjei-Bamfo (2020:2) assert that public procurement reforms were adopted as part of public finance reforms to instil sanity in public procurement practice. For instance, from studies in Nigeria, Adebayo and Evans (2015) assert that reforms were initiated to address corruption. Fourie and Milan (2020) provide that South African procurement reforms were done to address the implications of apartheid regimes, where policies like Black Economic Empowerment (BEE) were adopted to ensure equal participation of the black majority. Kwaw *et al.* (2022:57) postulate that Ghana's procurement reform was driven by the need to promote sustainable development. This had to be achieved firstly by addressing the major flaws of the traditional procurement methods, thus strengthening accountability and transparency. In Zimbabwe, Munyede and Mapuva (2020:3) underscore that the government pursued procurement reform for ease of doing business with its various stakeholders like Small and Medium Enterprises, agencies, and the private sector.

Hunja (2003:23) suggests that before the dawn of reforms, procurement systems within African countries were guided by old legal frameworks which made the procurement process porous and ineffective. Dza *et al.* (2013:51) affirm that many African governments' procurement was based on systems inherited during the colonial era. However, such unreformed systems were prone to abuse and manipulation (Odhiambo & Kamau, 2003). The characteristics of unreformed public

procurement systems in Africa were depicted by Karangizi (2005:3) as associated with:

- i) Use of multiple procurement rules based on donor conditions;
- ii) Absence of appropriate institutional structures (most states had inefficient centralised tender bodies);
- iii) Lack of appropriate legal frameworks; and
- iv) Limited use of IT in procurement.

Against this background, governments began to spearhead the adoption and implementation of several reforms to address the weaknesses of current systems. Basheka (2021:2016) suggests that initially procurement reforms were undertaken to be in the good books of the multilateral funding agencies, and governments in Africa. For example, Kwaw *et al.* (2022:58) indicate that public procurement reform in Ghana was the brainchild of the World Bank. The same views are shared across literature by Elegbe (2014) as well as Komakech, (2016:20) that procurement reforms in most African countries were driven by the need to meet the requirements set to earn donor funding. Dza *et al.* (2013:50) are of the view that more recently the impetus for reforms has increased consequently due to the requirement set by the World Bank as a condition for providing donor aid, but principally because of the inefficiencies of unreformed systems have become self-evident. Additionally, Basheka (2009:131) including Elegbe (2014:210) assert that despite the need to meet requirements set by donor conditions; public procurement reforms were affected to improve public sector governance. Hunja (2003:15) avers that procurement reform promotes a procurement framework that fosters transparency as well as an efficient mechanism of enforcement coupled with an institutional arrangement that ensures consistency in overall policy foundations and implementation. However, most African countries have made public procurement an avenue for failed public policies (Basheka, 2021:124).

The continuous effort to revamp public procurement has been necessitated by changes in the role of public procurement over the years. Thai (2001:14) postulates that procurement has been a consolidated practice in government. However, much

recently public sector managers have begun exploiting procurement for its strategic and systemic potential beyond the mere act of purchasing. The OECD (2021:7) underscores that using public procurement more strategically allows for better responses to changing conditions. The changing nature of the procurement function is best summarised below by Schapper *et al.* (2006).

Table 3.1: Changing nature of public procurement

Simple →	Complex contracts and relationships
Largely goods →	Complete service solutions
Sourcing considerations →	Strategic business solutions
Low-value, low risk →	High-value, high risk
Back-office function →	Central to strategic management
Warehousing →	Just in time
Basic skills →	High-level skills

Source: Schapper *et al.* (2006:8)

The most remarkable development concerning the reformation of public procurement was the development of the United Nations Commission on International Trade Law ("UNCITRAL") in 1994 (Anthony, 2018:12). This law served as a model template for governments willing to regulate their procurement systems, and according to Elegbe (2014:209), it was a huge success. Despite these evolutions in procurement methods, innovations in e-technologies, and the trend towards harmonisation of procurement practices and regulation among other changes meant that by the mid-2000s, the 1994 model law was in danger of becoming obsolete. This is because it did not take into account innovations in the rapidly changing procurement space (Elegbe, 2014:210). Basheka (2009) suggests that another watershed development concerning public procurement reform was the public procurement conference reform held in Tunisia in 2009. Karangizi and Ndahiro, (2009) underscore that this conference brought to the fore the importance of public procurement, its linkage with governance, and the far-reaching implications of its poor performance in African economies. Dza *et al.* (2013) remark after the conference parties agreed on the need for the modernisation of public procurement in Africa to meet international standards.

In line with the above, the modernisation efforts would include developing laws, procedures and institutional frameworks for public procurement. Karangizi (2005:5) underscores that the baseline for procurement reform included three points which were the creation of Procurement Regulatory Authorities (PRAs), enactment of procurement-specific legislation, and provision of clear and unambiguous laws and training. In countries like Ghana, Uganda, and Kenya, the reforms have not been limited to regulations alone, they have included public procurement processes, methods, procurement organisational structure, and even the workforce (Ameyaw *et al.*, 2012). Additionally, there have been increased efforts to promote the professionalisation of public procurement functions by establishing Procurement Management Units (PMUs) which afford procurement practitioners with skills development (OECD, 2021). Despite procurement reform in Africa bringing modernity, it has been fraught with cultural insensitivity, and the disregard for countries' political, socio-economic, ethical, environmental structures and systems (OECD, 2015). Hence, reform processes continue to encounter challenges like lack of funding, high level of in-compliance with procurement policy and regulations, which has led to inefficient procurement outcomes.

Furthermore, Basheka (2021:119) bemoaned these reform developments indicating that most of them, across African countries, were undertaken without policy anchor. Thus, the ADB (2018:8) underscores that despite many countries having implemented fundamental changes to procurement systems there is little evidence of these efforts achieving full-fledged fundamental reforms (Ibid, 2018:8). Schapper *et al.* (2006:3) are of the view that the dilemma of public procurement reform is the lack of consensus about the scope and nature of public procurement which is often prevalent, valid and varied within the organisation and even between procurement practitioners. Therefore, Basheka (2009:457) contends that many African countries have clear procurement rules and procedures but practitioners fail to implement them, which has translated to poor service delivery.

3.3 PUBLIC PROCUREMENT REFORM IN ZIMBABWE

An examination of public procurement reform in Zimbabwe is critical because it provides context for understanding the need for e-procurement, the stakeholders involved, and the potential challenges and opportunities for e-procurement adoption

(Transparency International, 2021:15). An examination of public procurement reform unpacks the discourse for e-procurement implementation by making an appraisal of procurement reform initiatives that have preceded e-procurement implementation. It can be established that reform within the discourse of public procurement in Zimbabwe was driven by the recognition that procurement is a key area of improving governance and economic development. Furthermore, procurement reform efforts in Zimbabwe are rooted in reforms at the international level in the form of development in procurement regulations, professionalisation, and modernisation of public procurement systems as shall be discussed in this section. Public procurement reform in Zimbabwe shows some positive signs of addressing procurement anomalies; however, one dominant challenge is the lack of compliance with government directives, legislative guidelines and procurement policies (Dzuke & Naude, 2015; Musanzikwa, 2014; Transparency International, 2022).

Tsabora (2014:4) asserts that since 1980 public procurement has been using the British system, where procurement was regulated by splinter regulations that were promulgated during the colonial era, but without a procurement policy per se to guide the execution of public procurement. Therefore, the first significant step towards public procurement reform was the establishment of the Tender Board in 1980, which in later years pushed for the promulgation of procurement laws. Hence, Tsabora (2014) underscores that during this period of establishment of the Tender Board, there was no change with the promulgation of the Procurement Bill in 1999. The legislative promulgations of public procurement were informed by the Zimbabwean Constitution's provisions on the need to have an Act of Parliament to promote public procurement. According to Section 315 of the Constitution, there is a need for an Act of Parliament prescribing procedures for the procurement of goods and services by the State and all institutions of the Government in a manner that is transparent, fair, honest, cost-effective, and competitive (PRAZ, 2022). The board was mandated to manage all public procurement processes (Procurement Regulatory Authority of Zimbabwe, 2022). Musanzikwa (2014:4) underscores that during this period Zimbabwe operated a centralised procurement regime, which made procurement procedures lengthy and costly for procuring entities.

The promulgation of the Procurement Bill of 1999 which was adapted into an Act gave effect to further development within the Zimbabwean public procurement discourse. The Act provided for the establishment of a new procurement regulatory entity, the State Procurement Board (SPB). It was mainly responsible for conducting procurement on behalf of the procurement entities where the class of procurement was within the threshold prescribed in the regulations (Munyede & Mapuva, 2020:4). Such a development was deemed to be a positive step towards streamlining public procurement, since the previous tender board had monopoly power over procurement activities at all levels of government. Among other roles of SPB was exercising procurement supervisory and monitoring functions across all state-owned enterprises, government departments, agencies, and local government (Hasan, 2019). Musanzikwa (2014) however indicated that the establishment of the SPB brought insignificant change to the Zimbabwean public procurement. According to Transparency International (2021:15), the SPB lagged several government projects, especially in infrastructure and water reticulation. Dzuke and Naude (2015:5) suggest tenders took about three (3) months to complete.

Transparency International (2021:16) suggests that it was during the mid-1990s period that the need for procurement reform started to gather much momentum. This can be attributed to the Economic Structural Adjustment Programme (ESAP) driven by the World Bank and International Monetary Fund (IMF). The organisations had confidence that a reduction in the size and role of the public sector would control and reduce the practice of rent-seeking (corruption). In the year 2000, the government crafted the Public Procurement Act Chapter 22:14 of 2002 which served as a linchpin for effective procurement procedures within the Zimbabwean public sector discourse including the local government. In the same period, the centralisation of power to approve procurement requests by government departments upon the SPB continued to cause high levels of red tape and bureaucracies which rendered the procurement function to be inefficient (Dzuke & Naude, 2015:3; Jachi *et al.*, 2019:44). Public procurement in Zimbabwe continued to be fraught with several anomalies and inconsistencies that resulted in a declining quality of service delivery and public sector performance generally (Tsabora, 2014; Dzuke & Naude, 2015:12; Munyede & Mapuva, 2020:1).

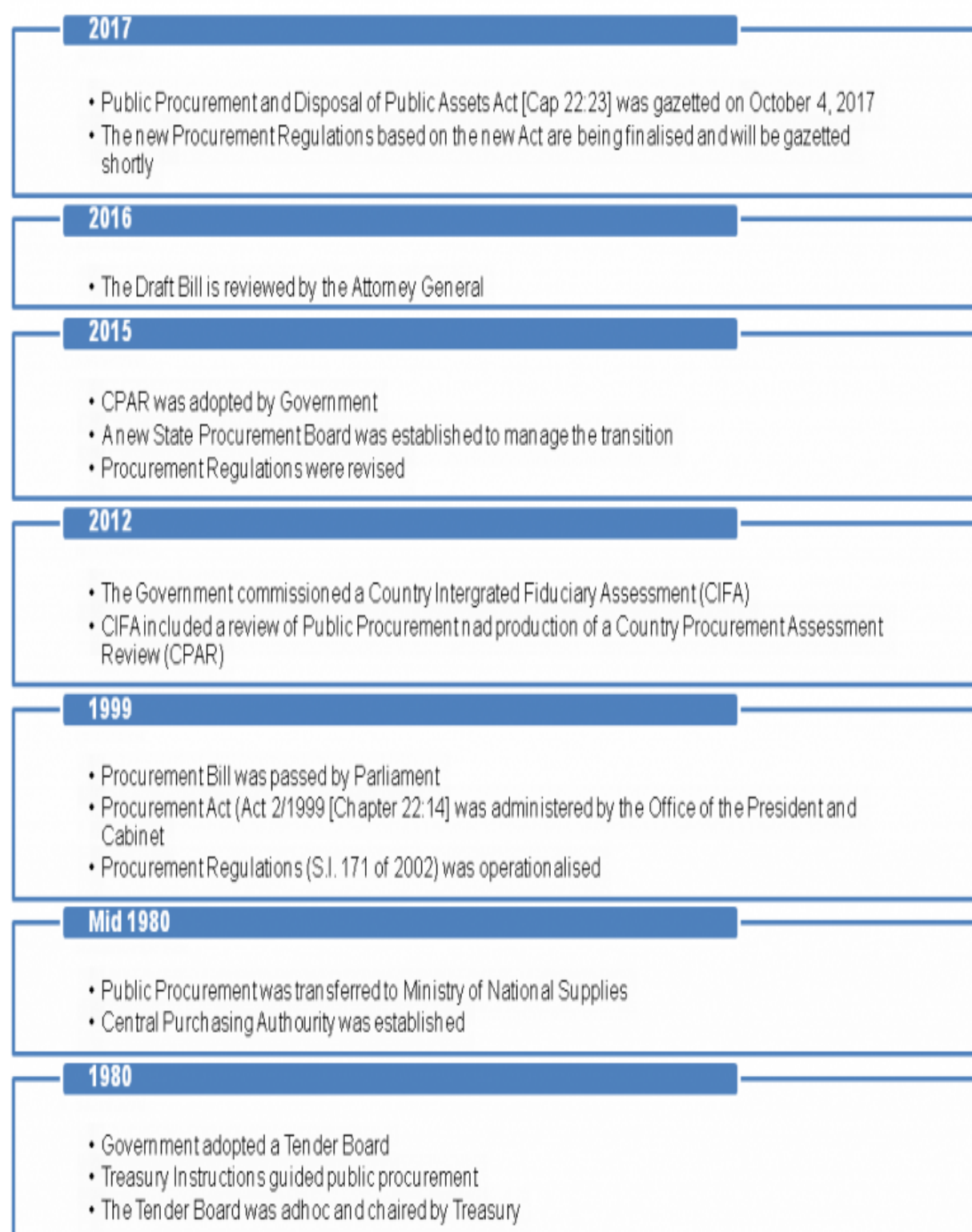
Transparency International (2019:13) notes that the public procurement process continues to evolve; therefore, it requires to be constantly reviewed to be in line with emerging trends and processes to ensure that the procurement function remains fit for purpose. The old legal and institutional arrangements for Zimbabwe's public procurement had a very high risk of encountering corruption, for example favoritism in the decisions of government officials (Hasan, 2019). The Asian Development Bank (ADB) (2018:3) provides that governance of procurement is pivotal to gaining public trust and serves as a barometer for the quality of public administration. This makes it a priority target for strengthening in many governments. In the case of Zimbabwe, the government continued to push for changes to strengthen the public procurement function. More recently the Zimbabwean government embarked on a public procurement modernisation program in partnership with the World Bank in 2019 (Jachi, *et al.*, 2019:45). The overall aim of the procurement modernisation programme had been to promote integrity, promote the use of internationally accepted practices and develop capacities, especially in the planning and monitoring processes (*ibid*, 2019:45). This initiative was an effort by the government and its partner (World Bank) to develop the public procurement function to be in line with trends and international best practices of public procurement. The public sector is currently riding on the wave of digitisation of government functions; hence using digital technologies to purchase goods and services has become a trend in government procurement (Chen *et al.*, 2021:2). The growing procurement complexity and the increasing dissatisfaction with the traditional procurement systems offer great incentives for the government to re-engineer procurement process and adopt e-procurement.

Furthermore, the modernisation programme has seen the government embarking on an e-government procurement project pursuant to the Results Based e-Governance. Madhekeni (2012:124) asserts that the introduction of Results Based Management System was triggered by the quest for better quality and more responsive service delivery by members of the public, calls for politicians to be more people-sensitive and service-oriented. The World Bank provided funding support to the government towards the development of practical tools for implementing the law and the development of an electronic government procurement strategy for e-government procurement (Ali, 2019; Jachi *et al.*, 2019:46). Additionally, in line with this

modernisation program, the government in 2018 enacted a new Public Procurement and Disposal of Public Assets Act (Chapter 22:23). According to World Bank (2019), the Act became an anchor instrument of the legal framework and the development of practical tools for implementing the law. Munyede and Mapuva (2020:1) underscore that the modernisation programme has seen the establishment of the Procurement Regulatory of Zimbabwe (PRAZ) as the institutional framework for public procurement, replacing the State Procurement Board. In addition, the Public Procurement and Disposal of Public Assets Act (Chapter 22:23) of 2018 provides for the decentralisation of procurement procedures to government departments and other arms.

In this light public procurement reform regime in Zimbabwe is progressively being configured into a centrally steered, but decentralised organisational form that is the state procurement board manages procurement overall, however, entities are responsible for their own procurement (Chen *et al.*, 2021:3). This serves as a critical step in reducing red tape in public procurement which was associated with previous legislation which centralised public procurement function to the SPB and Tender board. The procurement modernisation program through the adoption of e-procurement systems in all public entities seeks to address anomalies of the traditional procurement system (Transparency International, 2021; Thai, 2017). It is in this context that this study assesses e-procurement readiness at HCC and how it has influenced the prospects of e-procurement implementation. Figure 3.1 below depicts a visual progression of procurement reform in Zimbabwe. Table 3.2 below also presents a summary of legislative promulgations that were enacted as part of procurement reform. The majority of these laws seek to support the need for procurement entities to uphold principles of public procurement (transparency, accountability, integrity and equality). Nonetheless, Chilunjika *et al* (2022:3) postulate that even though the Zimbabwean government enacted several laws that govern the tendering process these laws suffer from comprehensiveness paucities as a result of their discordant state, making them spongy and susceptible to abuse.

Figure 3.1: A summary of public procurement reform in Zimbabwe



Source: PRAZ (2022)

Table 3.2: Procurement regulations that has been part of procurement reforms in Zimbabwe

Acts	What it says about public procurement
Public Finance Management Act Chapter 22:15 of 2009	<p>Section 44 (iii) provides for an appropriate procurement and provisioning system that is fair, equitable, transparent, competitive, and cost-effective.</p> <p>Section 78 (y) provides for the determination of a framework for an appropriate procurement and provisioning system that is fair, equitable, transparent, competitive, and cost-effective.</p>
Administrative Justice Act Chapter 10:28 of 2004	<p>While the AJA provides for the procedural measures and processes, it also mandates all government departments to act within the ambit of the law in procurement processes</p> <p>Section 3 (a) provides that those administrative authorities shall act lawfully, reasonably, and fairly.</p>
Urban Councils Act Chapter 29:15 of 2001	<p>Section 210 subsection 1 provides that every municipal council shall appoint a municipal procurement board which shall be responsible for preparing tenders and for making recommendations to the council concerning the acceptance of tenders and the procurement of goods, materials, and services.</p>
Competition Act (Chapter 14:28) of 1996	<p>The Act is more concerned with promoting competitive procurement. It is consistent with the general guiding principles of competitive bidding, which require suppliers to compete for a specific government contract.</p>

Source: Author's illustration

3.4 SCOPING THE E-PROCUREMENT LANDSCAPE IN ZIMBABWE: INSTITUTIONAL AND LEGISLATIVE FRAMEWORKS

E-procurement is among the key initiatives oriented from the e-government and ICT agenda in Zimbabwe. The deployment of ICTs and e-government in Zimbabwe goes back to the early 1970s when the Central Computing Services (CCS) provided ICT services to the public services (Hikwa & Maisiri, 2014:272). Following this was the adoption of the Integrated Results-Based Management System (IRBMS) in 2005, which is underpinned by e-government as an integral component (COMESA e-Government Web Portal, 2012). Also, in 2005 the Government of Zimbabwe together with the National Economic Consultative Forum (NECF) embarked on an e-readiness survey to appropriately inform the intent to deploy ICTs in the country (Mhlanga, 2006). This e-readiness survey eventually became the basis for the ICT policy framework to provide a roadmap towards a knowledge society (ibid, 2006:1).

Since the inception of the e-government agenda in Zimbabwe, the government has formulated a series of policy documents and strategies that envisage the adoption and implementation of e-government initiatives. The formulation of policies and institutions reflects the government's willingness to transition to e-government as a driver of the knowledge economy over the years. Additionally, the development of several policies and institutional frameworks dovetails with the government's strategic goals like the realisation of the Millennium Development Goals later developed into Sustainable Development Goals (SDGs), and the 2030 Agenda for Sustainable Development (United Nations, 2015). According to Hikwa and Maisiri (2014:272), the desire for digital access and e-government is steeped in the modern-day thrust and trajectory towards building sustainable knowledge-based economies. An emerging concept is a consensus that the sustenance of a knowledge-based economy is unchanged and reliant on digital access and e-government in terms of e-government growth (UN, 2022:3). The promulgation of a legislative and institutional framework in Zimbabwe provides a foundation for e-procurement for a country that does not fare well in terms of e-government implementation. The following is a presentation of the institutional and legislative frameworks that form the basis for e-procurement implementation in Zimbabwe.

3.4.1 INSTITUTIONAL FRAMEWORKS GOVERNING E-PROCUREMENT IN ZIMBABWE

The government has established several institutions that are responsible for developing, implementing and monitoring e-government procurement in Zimbabwe. These institutions are expected to work collaboratively in fulfilling the e-government agenda. The mandate of each institution is discussed below.

3.4.1.1 Procurement Regulatory Authority of Zimbabwe (PRAZ)

This is the governing board for public procurement in Zimbabwe. It was established under the auspices of the Public Procurement and Disposal of Public Assets Act of 2018. PRAZ is mandated to drive the implementation of e-procurement in Zimbabwe. Section 6 part (e) provides that PRAZ is mandated "to develop the use of electronic tools for procurement, including a public procurement website and statistical databases containing information on public procurement in Zimbabwe, and specify the conditions under which such databases will be availed to the public". The PPDA 2018 Section 43 mandates PRAZ to formulate an e-procurement policy that mandates the submission of bids by email. While establishing PRAZ is a step in the right direction, the legislative framework that guides its modus operandi was formulated to suit a manual procurement environment. In addition, the absence of an e-procurement policy is clear evidence of PRAZ's failure to execute its mandate. Dube (2019) suggests that funding challenges are derailing PRAZ's progress towards e-procurement reform. The PPDA 2018 mandates PRAZ to guide procuring entities to achieve the goals in the Act, however, Dube (2019) asserts that the entity has failed to rethink its approaches to move in line with e-government procurement expectations.

3.4.1.2 The Ministry of Information and Communication Technology and Courier Services (MICTCS)

The Ministry of Information and Communication Technology and Courier Services (MICTCS) is mandated generally to create an enabling environment for the creation of a knowledge-based society (National Information Communication Technology Policy, 2016). Basically, this Ministry was created to promote the implementation of e-government services in Zimbabwe. The MICTCS houses many departments that fulfil different functions, but the ones most relevant to this study are the Department of Infrastructure Development and Management, and the Department of Policy

Coordination, Development, and E-government, which is mandated to "establish and manage the e-government framework, structures, applications, and services at all levels" (Government of Zimbabwe, 2023). More so, the Ministry is also responsible for developing a strong ICT human resource base through championing and promoting ICT literacy and its utilisation in the country to enhance regional and international competitiveness. Henceforth, it spearheads the formulation of legislative frameworks to support e-government and monitoring of e-government projects among other ICT initiatives in Zimbabwe. Overall, it serves as one of the key drivers of the implementation of e-government initiatives like e-procurement in collaboration with other government entities.

3.4.1.3 E-government and Modernisation Unit

The department or unit falls under the Office of the President and Cabinet of Zimbabwe. The unit has the mandate to drive the e-government programme as part of the public sector reform to re-engineer, and modernise the public sector systems and processes. It is this department that is directly involved with e-government activities in Zimbabwe; therefore, it coordinates and works with all the other government ministries to implement the e-government policy (Government of Zimbabwe, 2023). Strategic to this unit is the establishment of Cabinet Committees on Scientific Research, Technology Development as well as the Technical Advisory Committee. Zinyama and Nhema (2016:14), citing the COMESA e-government Portal (2012), assert that these committees provide leadership and guidance to the whole implementation process of e-government flagship applications. In addition, they are responsible for managing top-level national internet domains across Zimbabwe.

Although the country strives to digitise the public sector by coming up with e-government implementation policies, legislative and institutional frameworks, such an aspiration has remained a mere declaration of the intent. In this regard, Mahlangu and Ruhode (2021) underscore that the obligatory vigour to drive implementation of e-government in Zimbabwe remains missing. Nhema and Zinyama (2016:6) suggest that the institutional mechanisms of IT in Zimbabwe are not well-defined and coordinated due to the absence of a well-defined government strategy to articulate such shortcomings. Therefore, such fragmented institutional arrangements expose

the E-government Unit's incapacity to coordinate other government ministries which resultantly derail efforts to initiate and manage e-government projects.

3.4.2 LEGISLATIVE FRAMEWORKS GOVERNING E-PROCUREMENT IN ZIMBABWE

3.4.2.1 The Public Procurement and Disposal of Public Assets Act 2018

The PPDPA of 2018 is the overall regulator of all public procurement procedures in Zimbabwe. Munyede and Mapuva (2020:1) citing Musanzikwa (2013), underscore that before the introduction of the new procurement reforms in 2018, the public sector in Zimbabwe used to operate a centralised, corrupt, chaotic, and inefficient system which had a negative impact on good local governance and service delivery. To address these shortcomings, new procurement legislation was ushered in and brought with it numerous reforms which included decentralising procurement to units such as urban councils and adoption of electronic tools for public procurement. Section 6 part (e) provides mandates PRAZ “to develop the use of electronic tools for procurement”. It is pertinent to note that as much as the PPDPA Act 2018 is a watershed step towards e-procurement reform, it needs to articulate clear measures to ensure compliance with procurement principles in the context of e-procurement. More so, the Act refers to the use of electronic tools for procurement execution. However, it errs with no guidance on what these tools are, the standards and specifications criteria for e-procurement. Overall, the Act was promulgated to suit the requirements of manual procurement since the reference is heavily aligned to the use of manual methods for procurement.

3.4.2.2 National Information Communication Technology (ICT) Policy 2016

The National ICT Policy of 2016 provides a map towards a knowledgeable society. The policy's mission is to exploit the potential of ICTs for sustainable socio-economic development in Zimbabwe. While its vision is “knowledge-based society with ubiquitous connectivity by 2020”, the policy provides strategic direction on how ICT development and application can be used to spearhead national socio-economic transformation (National ICT Policy, 2016:18). Nhema and Zinyama, (2016:17) assert that among the objectives of this policy includes enabling and fostering access to and increased use of telecommunications or ICT in all spheres of life (such as e-government, and e-commerce) among others. The National ICT Policy of 2016

is the sole policy that provides a framework for e-government; however, this policy requires constant review as ICTs are extremely fast-changing in their quality, and standards hence such policies require timely updates. This policy is criticised as it does not address critical areas that an ICT policy is expected to address. For instance, this policy ought to address issues to do with the identification of potential data needs and sources, assessment of the quality of ICT infrastructure, business ICTs usage (Musarurwa, 2018).

3.4.2.3 Constitution of Zimbabwe 2013

The Constitution of Zimbabwe Amendment number 20 of 2013 makes provisions for public procurement in general (Sections 9, 56, 195, and 315). The constitutionalisation of public procurement shows Zimbabwe's commitment to global procurement standards. Section (9) of the Constitution provides a mandatory call for the government to adopt and implement policies and legislations to develop efficiency, competence, accountability, transparency, personal integrity, and financial probity. Further, Section 195 (2) of the Constitution states that companies and other commercial entities owned or wholly controlled by the state must establish transparent, open, and competitive procurement systems. Section (315) of the constitution provides at length that an Act of Parliament must prescribe procedures for the procurement of goods and services by the state and all institutions and agencies of government at every level so that procurement is effected in a manner that is transparent, fair, honest, cost-effective and competitive.

3.4.2.4 The Electronic Transactions and Electronic Commerce Bill of 2021

Zimbabwe has been operating without legislation that regulates electronic transactions, nor were there regulations before on electronic transactions. Therefore, key issues provided for by the Bill are the use and regulation of electronic contracts and electronic transactions. This bill is critical for the implementation of e-procurement in Zimbabwe as it serves as a baseline for the use of electronic transactions. According to the Open Parliament of Zimbabwe Hansard (2022), through the Electronic Transactions and Electronic Commerce Bill, the government is seeking to establish a legal framework that facilitates fair, accessible, responsible, and sustainable online transactions including the recognition of digital signatures.

Dube-Matutu (2021) citing the 2021 Post Cabinet Briefing Report 2021 indicated that the bill seeks to achieve the following:

- foremost to attune the country's legal framework to technological changes by addressing the current deficiencies in most of the country's existing laws, which were designed for paper-based transactions.
- to promote and advance the business environment in Zimbabwe by establishing a legislative framework that enables fair, accessible, responsible, and sustainable online transactions.
- to wholly or partly consolidate and harmonise existing electronic transactions-related legislation, such as the Consumer Contracts Act [Chapter 8:03].
- to establish a predictable, accessible, safe, and transparent online trading environment, which is necessary for e-commerce to flourish.

One limitation is that the Bill has not been passed by Parliament to become an Act. This implies that for now, it works as just a source of reference however it does not regulate electronic transactions.

3.4.2.5 Cybersecurity and Data Protection Act 2021

The goal of the Cybersecurity and Data Protection Act is to enhance cybersecurity to build confidence and trust in the secure use of ICTs by data controllers, their representatives or data subjects. This will serve to address concerns relating to the right to privacy and personal data protection, surveillance, cross-border transfers of personal information and data retention issues among others. Be that as it may, the existing provisions in the Act do not provide sufficient mechanisms for the protection of data and the right to privacy. For instance, the Act does not explicitly provide for the rights of data subjects with rights which include the right to rectification, the right to erasure or right to be forgotten, right to data portability among others. The Act also does not have provisions on data retention periods and neither does it explicitly provide for data protection principles applicable to data controllers. Such a legal environment does not promote the use of e-procurement systems as a mode of public procurement as both suppliers and buyers may have hesitancy due to lack of surety that their data remains private and safe.

3.5 UNDERSTANDING E-PROCUREMENT READINESS CONCEPT

Understanding e-readiness is a precursor to understanding e-government readiness (Bwalya, 2018:193). Firstly, the ADB (2013:55) defines readiness as the ability of an entity to deliver and operate a specific feature to deliver an expected value. The e-readiness concept originated with the intent to provide a unified framework to evaluate the breadth and depth of the digital divide between more and less developed or developing countries during the late part of the 1990s (Lou *et al.*, 2019; Goulding *et al.*, 2019) as cited by Kagoya and Gilbert (2020:45). Dada (2006:2) purports that essentially, e-readiness was used to capture how nations across the globe fare in terms of creating, diffusing, adopting, and using the various components of a networked economy. Thus, it is perceived that an area ready to participate in the digital economy will have a much-reduced digital divide so that digital opportunities are harnessed and access to information is achieved (Bwalya, 2018:193). Hence it has become an important component of the success of e-government projects and studies; the ADB (2013) underscores that in this context it refers to a country's capability to take advantage of the newly evolved ICTs as an active engine of human development and economic empowerment.

Moreso, Lou *et al.* (2019:2) acknowledge that e-government readiness refers to a country's capacity and state of preparedness for information technology (IT) infrastructure and its ability for sustainable development. Eweni (2012:9) goes a step further in defining e-government readiness as "the state of readiness to participate in the world networking, measuring the readiness of the institution and its ability to address the barriers and problems that hinder its progress" as cited by Joseph and Olugbara (2018). Drawing on these previous perspectives, the operational definition of e-readiness refers to both the level of preparedness and willingness to adopt and effectively use electronic tools for improved functioning for an entity or government. Hardy and Williams (2007:133) perceive e-procurement readiness to the current use and potential levels of adoption of e-procurement by an organisation. Kagoya and Gilbert (2020), however, highlighted that despite technological preparedness being a critical indicator for e-readiness, e-government initiatives are constrained and shaped by institutional, legislative environments, and other events at both national and international levels. These need to be taken into cognisance for successful e-

government procurement project adoption and implementation, such an approach will be adopted in determining e-procurement readiness at HCC.

3.5.1 Significance of e-readiness towards e-procurement implementation

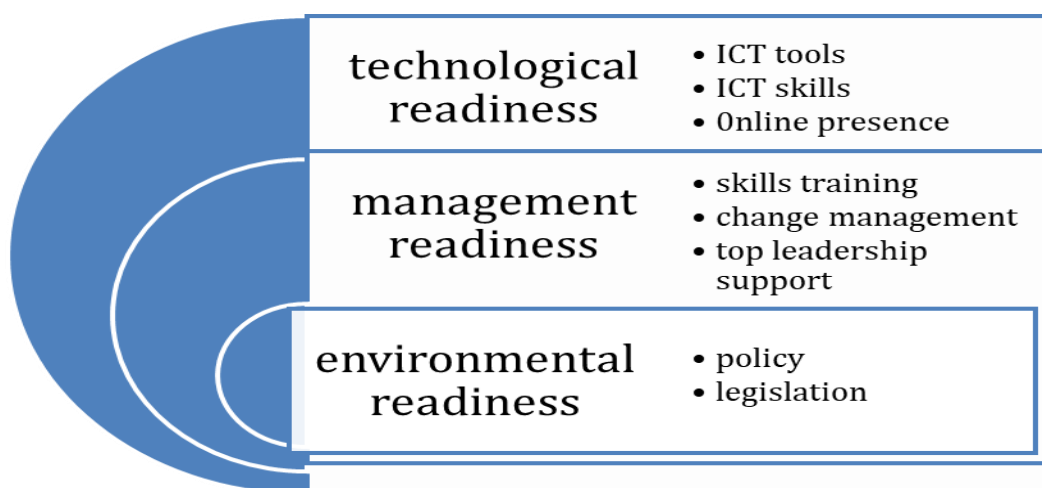
Mpehle and Mudogwa (2020:2) remark that when deciding to introduce e-procurement, it is imperative for any organisation to reasonably assess its readiness to implement such a system. Khan (2020:42) avers that e-readiness is important in gaining an improved understanding of the e-procurement dynamics surrounding e-procurement for an organisation and this is a crucial indicator of its ability to implement an e-procurement system. Therefore, Tran *et al.* (2011:132) purport that the perceived benefits of e-procurement implementation can only be achieved if an organisation is in a state of readiness to absorb effectively IT-enabled innovation into work practices before investment. The state of e-readiness can be ascertained through assessments that offer a portrayal of the environment in which e-government development ought to take place and prove the feasibility of the application in question (United Nations, 2018: 20).

Assessing e-readiness levels is a useful exercise to raise awareness, recognise opportunities and possible threats, and devise a plan for future e-government prospects (United Nations, 2018). It is significant to evaluate the impact of internet technologies and ICTs and help to map the current situation and plan for future changes. Relatively, the OECD (2009:116) underscores that a high level of readiness to develop and implement e-government services is a prerequisite for a high-performing and innovative public sector that delivers integrated services. E-readiness is of significant importance because it contributes to the creation of an environment conducive to the application of technological innovations by organisations. According to the ADB (2013:53) assessments help a government conduct a high-level review of its procurement environment to determine its level of readiness to make a transition to more advanced forms of e-government procurement sustainably. Kagoya and Mbamba (2019) indicate that by conducting an e-readiness exercise, an organisation can establish the fragile areas in e-government, which informs it to set counteractive measures which guarantee the success thereof. Hence, the UN (2018) suggests that where necessary e-readiness

assessments inform the update of e-government strategies and action plans, and provide a monitoring tool for e-government projects.

E-readiness is usually influenced by factors from other sources such as from internal organisational environment, external business environment, and technological characteristics (Kagoya & Gilbert, 2020:14). Therefore, the ADB (2018) citing the is of the view that for effective e-procurement adoption and implementation, an organisation should be ready in terms of the operating environment, legal environment, economic environment, organisational environment, and technical environment. Kagoya *et al.* (2020); United Nations, (2018) underscore that e-readiness in enterprises is an essential prerequisite for growth, development, excellence, and superiority. Such development and progress require high readiness in the technological infrastructure, qualified personnel, financial and material potential. Above all, the will and real sustenance from senior management in these institutions to quickly absorb and assimilate new creativity and technological innovation is critical. However, e-readiness assessments are most handy when they have been tailored to fit the national context of a country and accepted as part of evaluation and benchmarking (Kagoya & Gilbert, 2020:2). The ADB (2013), as shown in Figure 3. 2 below, provides a visual presentation of e-readiness dimensions that an organisation can consider for e-procurement.

Figure 3.2: An illustration of e-procurement readiness indicators



Source: ADB (2013)

3.6 METHODS

A qualitative approach was used in the study to contextualise evidence collected in assessing e-procurement readiness levels and prospects of e-procurement implementation at HCC. Qualitative research aims to explore people's perceptions and experiences of the world around them by synthesising data from studies across a range of settings. The study followed a qualitative research methodology precisely because the qualitative method would allow the researcher to engage more with respondents through semi-structured interviews (Denzin & Lincoln, 2008:4). This enabled the researcher to gain an in-depth understanding of complex phenomena by gathering data from various sources and respondent groups relevant to understanding the phenomenon, e-readiness. Therefore, data collection techniques in qualitative research that resonate with this research include document reviews and interviews (structured, semi-structured, or unstructured) with individuals (Jackson *et al.*, 2007:25).

The data presented and analysed in this chapter was gathered through semi-structured interviews administered to purposively-sampled key informants and was triangulated utilising an extensive document analysis. According to Teddlie and Yu (2007:77), purposive sampling techniques are primarily used in qualitative studies and may be defined as selecting units based on specific purposes associated with answering a research study's questions. This sampling technique was employed in the selection of units of analysis to be interviewed because the researcher was of the view that some units of analysis were more knowledgeable and possessed the required information on the subject being studied than others. The rationale for using purposive sampling is to ensure that participants who are knowledgeable about HCC procurement processes (and local government at large) are chosen which enables the researcher to gather data relevant to answering the research question. Key informants from the PRAZ and the Ministry of ICT, Courier, and Postal Services were chosen purposively for their role in monitoring procurement in Zimbabwe and e-government implementation projects respectively.

A total of thirty (30) individuals were interviewed for the study. Key informant interviews enable the author to understand the empirical realities of e-procurement in the context of HCC. The respondents' knowledge, views, understanding,

interpretation, and experiences on e-procurement readiness and implementation are essential (Mason, 2009:63). The main criterion for the selection of interviewees in this research was the direct or indirect involvement of the respondents with public procurement, e-government implementation and, as well as their experience and knowledge on the aforementioned. The sample population was determined by the willingness of gatekeepers to avail participants, since government procurement is a sensitive topic. In addition, the researcher ensured that each procurement stakeholder organisation had a representative participant which helped the researcher to avoid having a skewed sample. Hence, Miles and Huberman (1994) underscore that samples should 'be able to bear the phenomena of interest, assist the generalizability of findings, can produce 'believable; descriptions and explanations and be feasible.

This study observed research ethics in undertaking the study, hence the researcher had to gain informed consent from the participants and the consent form indicated the right to privacy, confidentiality and the right to withdraw from participating at any stage. The researcher did not use deception and coercion to attain information (Pruzan, 2016:279) as the nature of the research was well explained in the request for participation letters that were sent to respondents. Some organisations also requested the research proposal before giving consent for their officials to participate in the study. Therefore, participants were well aware of the nature of the research they were partaking in, they were voluntary participants.

Texts from interviews with key informants were analysed through thematic analysis whilst literature from journals, books, reports, and newspaper articles were examined using content analysis. E-readiness is a key indicator of an organisation's willingness to embark on the process of e-procurement implementation. The study findings added valuable insights to the study firstly by helping in determining the progress that has been made in preparing for e-procurement and secondly establish how this has influenced the state of e-procurement adoption and implementation at the city council. The data was presented and analysed using codes and themes emanating from the interview schedule and the recurring (frequency) responses of the participants. Hence the research had to align each of the responses proffered along

the three main constructs for e-readiness indicators guiding the study which were managerial, environmental and organisational readiness.

3.7 PRESENTATION OF FINDINGS AND DISCUSSION

3.7.1 BACKGROUND OF THE STUDY CONTEXT: HARARE CITY COUNCIL

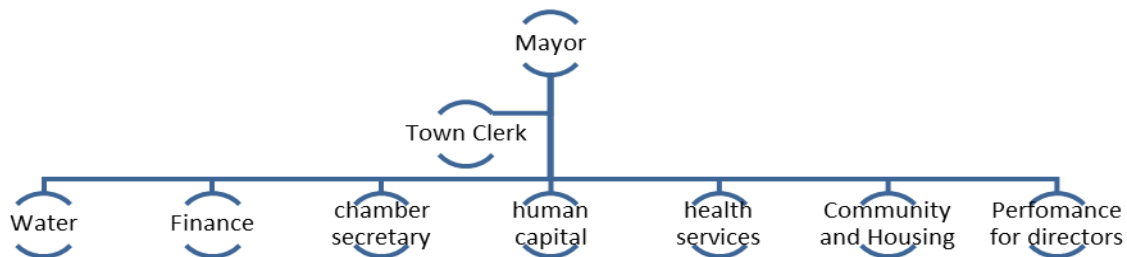
HCC is a local government, a constitutional body established under Chapter 14 of the Constitution of Zimbabwe (Munyede & Mapuva, 2020:4). Section 276(1) of the Constitution reads: subject to this constitution and any Act of Parliament, a local authority has the right to govern, on its initiative, the local affairs of the people within the area for which it has been established, and it has all the powers necessary for it to do so. Further, they also derive powers from the Urban Councils Act, Chapter (29:15). According to the United Nations Population Fund (UNFPA) (2022) the current metro area population of Harare in 2022 is 1,558,000 across its 46 wards. The current statistics reflect a 1.04% population increase from the year 2021. Most of the key public services in the capital are run and administered by the HCC through its eight functional departments and respective offices at district levels. The HCC provides local government services such as education, health, recreation, housing, water and sanitation, fire and ambulance, road construction, and maintenance, and burial and cremation services among others through its departments that are headed by Directors (City of Harare, 2023).

Among the eight departments within the HCC, seven of these are directly involved in service delivery through their different roles. These are Finance, Works, Community, and Housing, Water, Health Services, Town Clerk department which houses two divisions which are the ICT and Supply Chain. Despite the existence of these seven fully functional departments, the council has been continuously ridiculed for poor service delivery (Poperwi, 2018:5). Service delivery has been marred by multifarious challenges which include poor funding, centre local relations dynamics, and corruption (the City of Harare Turnaround Plan, 2020) which significantly affect procurement capacity of the council.

Efficient procurement practices are mirrored through efficient service delivery, which is a different scenario at HCC (Maramura & Shava, 2021). It is imperative to

implement e-procurement systems for efficient procurement outcomes. Among HCC's goals is a greater embrace of new technology and innovation to enhance service delivery. Moreso, another goal is to usher the municipality into the modern age, creating a smart city, therefore e-procurement systems implementation coincides with the council 's key goals (City of Harare, 2023).

Figure 3.3: HCC organogram



Source: Author's illustration

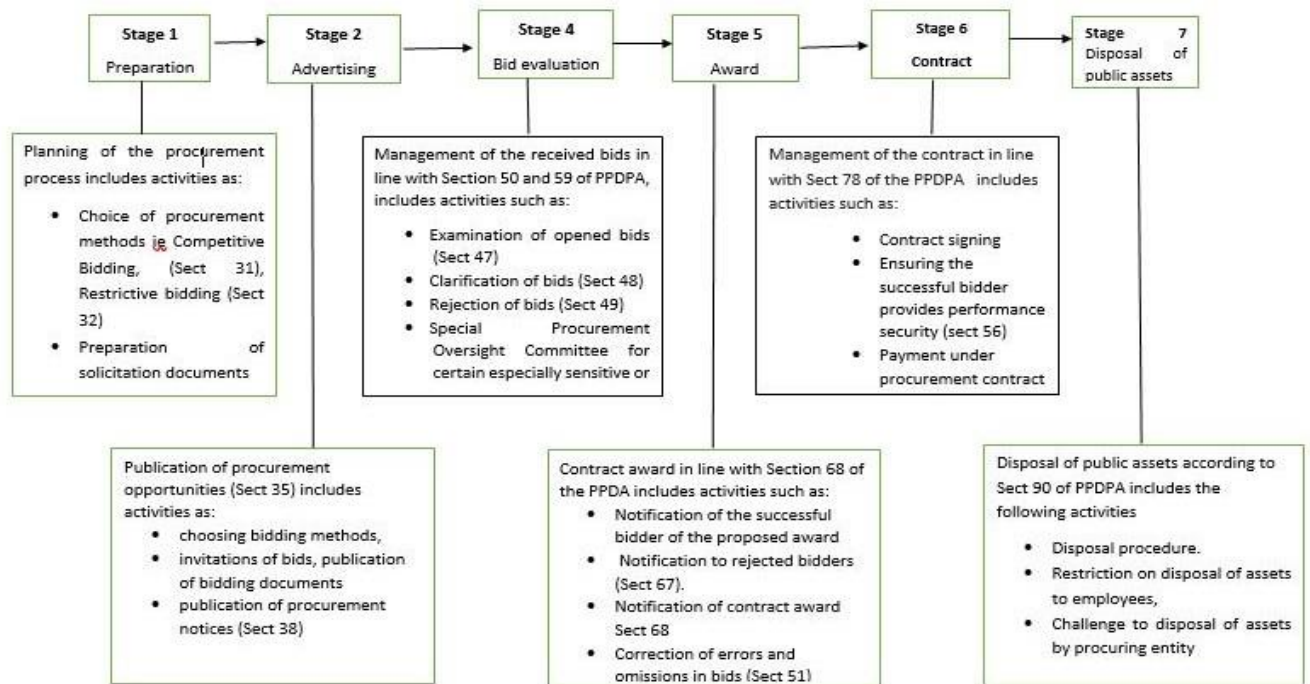
3.7.2 UNDERSTANDING THE PROCUREMENT PROCESS AT HCC

Public procurement at the HCC is an inter-organisational function, that precedes the procurement department to incorporate other organisational departments which usually request for goods and services. Hence it is considered to be a component of Supply Chain management that focuses on the sourcing and purchase of goods, works and services in the public sector (Maepa *et al.*, 2023:2). The HCC in conducting its procurement leverages upon its hierarchal structures which concentrate all procurement tasks and practices on a specific unit or a subunit of an existing functional support unit (Chen *et al.*, 2021:5). Public procurement regulation in Zimbabwe mandates for the establishment of a Public Procurement Unit for each government agency which is responsible for implementing and managing the

procurement mandate. The OECD (2012) underscores that public procurement is a government function best left to narrow specialists, hence HCC Supply Chain division (Procurement Management Unit) is responsible for all procurement-related activities within the organisation (City of Harare, 2023). The efficacy of the public procurement function at HCC is heavily reliant upon the performance effectiveness of the Procurement Management Unit. The conduct of public procurement needs to contribute to the realisation of procurement goals like transparency, accountability as established in the Constitution of Zimbabwe 2013 and overallly enhance the service delivery capacity of the city council.

In executing the procurement procedures, the unit is guided by the provisions of the PPDA 2018, which states that each procuring entity shall be responsible for managing its procurement, where the value of the procurement requirement is below the prescribed threshold (\$500 000). Therefore, procurement basically follows three stages which are the pretender stage, tender stage, and post-award stage (Dzuke & Naude, 2015:5). The specific stages include preparation, advertising, bid evaluation, award, the contract stage and managing disposal of public assets. Figure 3.4 below shows the various steps and activities for public procurement in line with the provisions of the PPDPA 2018.

Figure 3.4: PROCUREMENT PROCESS AT THE CITY OF HARARE



Source: Author’s illustration in line with the provisions of the PPDA of 2018

3.7.3 AN INVESTIGATION OF THE STATE OF PROCUREMENT AT THE HCC

The theme sought to analyse the contextual realities associated with the current HCC’s procurement procedures. In this regard participants across HCC were asked to determine the effectiveness of current procurement systems and challenges associated with them. The interview findings brought out the inadequacy of the HCC's procurement systems and procedures. Heads of the departments’ interview responses were all in agreement that the existing procurement systems and procedures were ineffective in contributing towards the realisation of their respective departmental procurement goals.

Among the common procurement-related challenges revealed by respondents included red tape, lack of information, high levels of unreliability, procurement approval delays and failure to track orders. The ineffectiveness of the HCC procurement was revealed in an interview with one participant from one of the council's service departments. This is presented in the following interview excerpt:

“Procuring at HCC is quite a daunting task because it is a timeous activity, requests for goods and services have to go through several offices for approval which implies that if one office bearer is not available, it automatically means that there would be delays in the acquisition of such. This makes procurement a lengthy and unproductive process and resultantly we fail to meet project timelines, and deliver services promptly”.

The same sentiments were shared by one HCC Supply Chain official and the respondent had this to say:

“Our systems are very costly in so many ways to the entity, firstly because they are very unreliable in terms of preserving information and we usually do not have record tracks of our annual procurement expenditure. For instance, due to the system's lack of reliability, one can purchase goods that are available at the warehouse because our system does not update what's available and what's not.”

The views above were similar to the perceptions of officials from the Combined Harare Residents Association (CHRA) indicating service delivery challenges related to the ineffective procurement system at HCC. One official narrated that service delivery at HCC does not reflect value for money due to its poor quality and at times no service is rendered at all. The official's response was quoted as "looking at the state of infrastructure like roads, water reticulation, and access to health services in Harare, one can deduce that council tendering processes are very undesirable". The research findings point to an ineffective procurement system which is marred with several challenges. Documentary search establishes that the HCC procurement is associated with overcharging of goods and services, award of contracts to suppliers without going to tender, and inflation of prices (Musarurwa, 2018). It can be drawn that procurement challenges include procurement delays due to red tape, and lack of information which emanate due to the involvement of the human factor, this can be addressed through the adoption and implementation of an e-procurement system.

3.8 EXAMINING AWARENESS LEVELS OF E-PROCUREMENT AT HCC

In the implementation of e-government initiatives, it is pertinent to ensure that users are aware as this will help them to embrace and participate in e-projects for successful adoption (Dias, 2020). Consistent with this view, Maepa *et al.* (2023:2) contend that the likelihood (level) of government departments adopting e-procurement is also influenced by how government departments view the benefits of e-procurement. Hence, this theme sought to first examine the level of awareness of e-procurement in general and at HCC among key informant respondents. Participants were asked the following question: What do you understand by the term electronic procurement system? To this end, the data was presented depicting popular views and in the same context capturing the direct verbatim of key informants. The data from the key informants was further corroborated by findings from the official documents reviewed. Awareness about e-procurement is an essential factor in promoting widespread acceptance and usage of e-procurement as a better alternative to the traditional-based process (Kagoya *et al.*, 2019). The lack of awareness about the benefits of e-government remains a critical factor in user adoption in the least developed countries (ibid: 2019).

Awareness of e-procurement entails that users can grow interest in adopting and implementing a new system since they will be knowledgeable of its usefulness. The general perception among respondents from HCC user departments as well as external participants was that e-procurement involves the use of technology tools to conduct procurement. In an interview, an HCC ICT division official indicated that “e-procurement involves conducting all procurement functions on the web”. The same sentiments were shared by the PRAZ official describing e-procurement by elaborating on its technical specifications. The informant had this to say:

“E-procurement is a process where you will be buying goods and services, particularly from the internet or www and usually the system ought to be operational on various internet browsers like Google, and Internet Explorer. An e-procurement system needs to provide for one sign-on capability for users to log in and easily access services within the system”.

In a similar viewpoint, an HCC official from one service department established that e-procurement involves adding an “e” to every procurement function. This depicts that e-procurement is perceived to be a technological add-in across procurement functions. In response to the same question, one academic personnel ‘s response exhibited the reform capabilities of e-procurement which are enabled by incorporating ICTs in procurement activities. According to the informant, “e-procurement is business to business process, which allows the processes of requisitioning, ordering and purchasing goods and services online to promote transparency and accountability in the public sector”.

However, a Ministry of ICT and Courier Services official indicated that since procurement involves several stages it is only fair to define e-procurement as the execution of some or all procurement-related functions using ICTs. The informant further justified this by indicating this:

“This reflects the reality of most modern public procurement systems in most countries which have failed to establish an end-to-end e-procurement system; however, they choose functions that are viable and feasible to be conducted online”.

The above sentiments depict that procurement stakeholders and practitioners have the perception that end-to-end e-procurement is mostly unattainable, however, they are aware of the efficacy and usefulness of e-procurement. Such users’ and stakeholders’ perceptions of e-procurement determine the extent to which an organisation can adopt e-procurement as a medium for public procurement. The high level of awareness among HCC officials positively influences the prospects of e-procurement implementation. This can be supported by previous studies establishing a correlation between e-procurement awareness and possibility of e-procurement adoption and implementation. Afolabi *et al.* (2019:3) asserted that if the potential adopters or users are well-informed about new technology, this has a significant influence on the level of adoption of such technology by an organisation. Ibem *et al.* (2016:69) also support the above sentiments indicating that awareness of e-procurement is a predictor of e-procurement implementation. Therefore, from the above findings it can be established that there are high levels of awareness of the e-

procurement concept among respondents which has a positive influence on e-procurement implementation. High levels of awareness could be perhaps due to high levels of educational qualifications which contribute to better comprehension of the e-procurement concept.

3.8.1 Evaluating the state of e-procurement adoption at HCC

E-procurement adoption precedes e-procurement implementation (Dias, 2020:1470), therefore the researcher sought to examine the state of e-procurement adoption at the HCC. The responses indicate mixed perceptions of the state of e-procurement adoption. Officials from the HCC were asked to identify procurement functions that are undertaken by the use of ICT tools while other key informants were asked about the state of e-procurement adoption at the local government level in Zimbabwe. The majority of responses point to the fact that most local governments and more particularly HCC had failed to embrace the e-procurement system with only a few procurement functions separately done online. The researcher deduced from interview findings that the HCC had not adopted an e-procurement system; however, a partial system is in place.

In an interview, one official from the Supply Chain division remarked that “it is not fair to purport that an e-procurement system has been adopted at the council because there is no functional system pointing to the fact that procurement-related functions are done manually”. In support of the above another respondent (Supply Chain unit) indicated that to claim that “HCC has adopted e-procurement is an overstatement because if one traces our procurement process from goods or services requisition up to the management of disposal assets, most functions are done manually. Mostly payments are done online”. The responses from five (5) HODs from the council indicated that there is a partial system or an almost non-existent e-procurement system. The top three procurement-related functions done using ICT tools mentioned by respondents are planning, ordering, and payment. One official had this to say:

“During procurement planning, we take advantage of Google Workspace which enables individuals to update the plans on Google Docs. Our requests for services and goods are usually sent to respective departments (mostly Supply Chain and finance departments) in print form or email. Tender

information is posted on organisational notice boards or in the local newspapers. Other steps after this like tender submission, bids evaluation, and contract management are done manually”.

The service users' sentiments are supported by literature findings by the ADB (2018:16) which stress that e-procurement has always been perceived as one of the optional methods of undertaking procurement procedures mostly in developing countries, hence low levels of adoption. Shakya (2017:25) affirms that one of the most prevalent reasons for the slow adoption of the e-procurement environment lies in the perception that countries implementing IT treat e-procurement as one of the options or treat e-procurement platforms parallel to traditional procurement. More findings gathered during interviews with HCC's internal stakeholders established the existence of a partial system of e-procurement system. In an interview with the ICT official, it was deduced that HCC had an Enterprise Resource Planning system which is a form of an e-procurement system. However, the officials from the Supply Chain unit raised a few arguments regarding the usefulness of the system. One informant had this to say:

“The council has no functional system to support e-procurement; the ERP cannot be called a system when it is not functioning and enabling users to capture information. The system does not have capabilities that enable users to effect actions like uploading requests for services and tracking orders, therefore the council had since dropped the ERP.”

The above remarks by the respondent can be corroborated by literature findings by ADB (2013:61) indicating that an e-government procurement system should support the interactions between governments and suppliers. A well-implemented system helps to bring together various supporting government operations, from financial management and payment processing to contract management and monitoring functions, all through one central portal. In the case of HCC, the ERP does not have all these capabilities. The interview findings were corroborated by documentary research from the HCC Strategic Report of 2020 indicating that the ERP system is not fully functional as the council has to acquire more servers to boost its functioning. The Zimbabwe Auditor General Report of 2020 reported that there have been several delays in the development of Enterprise Resource Planning (ERP) modules

including the procurement module (Auditor-General Report, 2019). More evidence indicating that the council had no functional system was derived from a newspaper article published in 2022 and it is quoted below:

“Previously the HCC was using SAGE systems, then they had a system offered by BIQ associates a firm from South Africa then, it adopted an ERP which is currently not active due to contractual disagreements between the supplier and the council”

Interview findings from the ICT Ministry, CHRA, and PRAZ point that local governments have failed to adopt e-procurement systems, and the few that have engaged in the process were taking place at a slow pace. One official from the ICT Ministry established that local governments have become one of the largest procurers who can greatly benefit from e-procurement adoption; however, capacity challenges have derailed their adoption progress. The informant further expressed the non-existence of a functional e-procurement system by saying the following.

"In government generally, I don't want to lie on that one so far in government I do not think they are using the systems, if otherwise, they may not be any. However, they are using SAP (Systems Analysis Program Development) as e-government, government normally uses manual systems, due to a lack of ICT infrastructures, and also it is costly to train the personnel who would be using the e-government systems. For instance, in Treasury, they go for training in South African Universities which are SAP certified".

A PRAZ official indicated that “e-procurement at local government is indirectly adopted for the acquisition of goods and services which are above the prescribed threshold and this is done through the PRAZ portal”. The respondent further noted that “at the local government level we are continuously encouraging entities to transition to online systems, although at the moment adoption levels are low and, in most instances, non-existent”. Supportive of these sentiments but from a different point of departure were the perceptions of another official from PRAZ indicating that local governments in Zimbabwe have failed to adopt e-procurement systems indicating that “in most cases organisations that claim to have e-procurement systems in place, in fact in most instances what they have more closely resembled e-purchasing”.

The above findings indicate that the use of ICT tools or e-procurement is a very infrequent and dormant practice at the HCC. The findings are similar to Aduwo *et al.* (2017) findings in a study of e-procurement implementation in Nigeria's construction sector. In this study e-mails and websites were the most widely utilised e-procurement technology for soliciting bids, sharing project outlines and specifications, advertising/announcement or receiving invitations to tender, and sourcing materials and equipment (ibid, 2017). Beyond the use of websites to publish procurement notices, the most popular procurement procedures used by procuring entities remain the traditional paper-based procurement procedures (ADB, 2018). Therefore, it can be noted that the HCC has not adopted a functional e-procurement system, despite some responses from users pointing to a lower extent to the existence of some fragmented procurement functions being done partially through electronic means.

3.9 TECHNOLOGICAL READINESS LEVELS AND PROSPECTS FOR E-PROCUREMENT IMPLEMENTATION AT HCC

Technological readiness refers to the technical competency of an organisation to undertake an e-project. According to Kagoya and Gilbert (2020), technological readiness refers to the degree of organisational knowledge, skills, and hardware to the provision of reliable system support. Technical skills and experience facilitate technical innovation and, in this case, enable the organisation to manage and adapt a complex e-government system (Asogwa, 2013). Al-eryani and Rashed (2012) asserted that the computer and internet experiences increase e-government readiness, and serve as media platform sources. This section presents popular views revealed from the study related to the technological readiness of HCC for e-procurement implementation. Joseph and Olugbara (2018) assert that the high impact of the technology infrastructure e-readiness accentuates and triggers e-government implementation. The findings below indicate the recurring technological readiness indicators established from the interview findings and backed by document search.

3.9.1 Web presence

3.9.1.1 The City of Harare website

The study established the availability of a website that can be used as an information dissemination platform for procurement-related information. Most HCC internal stakeholders in their responses pointed to the existence of a web portal www.hcc.ac.zw as a key e-readiness indicator for e-procurement implementation. According to the United Nations (2022:18), the design and development of a government web portal are one of the first major steps for front office e-government implementation. Ruhode *et al.* (2008:167) believe that “the use of an integrated web portal is increasingly becoming an important component of the e-government infrastructure”.

This is supported by the ADB (2018:23); Khan (2020) indicating that in most developing countries undertaking e-government, they set up websites; however, these are still at the informational stage without much interaction with citizens and businesses. The ADBB (2018)’s findings are voiced by an informant from the Supply Chain unit as shown in the following interview excerpt:

“One of the e-procurement indicators is the existence of a website that can serve as a central hub for tender-related information; however, I would point out two issues regarding our website, for now, the website is static and unresponsive but I would like to point it out this is an IT issue, not a Supply Chain unit issue”.

The quoted respondent bemoans the efficacy of the website as a tool for spearheading the implementation of e-procurement. Another key informant from the Supply Chain unit’s views contributed to the idea of the ineffectiveness of the website portal. The respondent indicated that:

“The City of Harare has a web portal; however, I don't think it will serve much as far as procurement functions are related, document links on the website are unresponsive and not downloadable. The website needs a major upgrade to allow options like a chat box”.

In addition, the response of another official from the ICT unit indicated that the HCC had not actively pursued initiatives that contribute towards creating an enabling environment for e-procurement adoption. The respondent ‘s remarks were quoted

as: “To give a relevant example, the city established a web portal, it should serve as a gateway for an e-government functionality. However, I think it is being underutilized in terms of facilitating the online procurement function”. The findings above made the researcher deduce that the existing infrastructure at HCC is not being used or is not sufficient enough to drive e-procurement adoption, therefore this has influenced negatively the prospects of e-procurement.

3.9.1.2 PRAZ Web Portal

The existence of the PRAZ web portal is a significant e-readiness indicator that can propel the implementation of e-procurement at HCC. Maepa *et al.* (2023:4) citing Priambodo *et al.* (2021:867) define an e-tender portal as a measure that indicates if an organisation is ready to adopt and utilise e-procurement. Among respondents, key informants from the ICT Ministry, PRAZ, and academia concurred that one of the key readiness indicators was the establishment of a central procurement portal by the Public Procurement Regulatory Authority of Zimbabwe. In this light, one participant, from PRAZ had this to say:

“As PRAZ we made it easier for government suppliers to self-register, and access call for tenders among other user options on the PRAZ website”.

In an interview, one PRAZ official commented that the "registration process has been simplified as the web provides steps or instructions that suppliers can follow through the registration process". In support of the above, participants selected from academia maintained that the establishment of the PRAZ portal is a step forward toward promoting the utilisation of e-systems by suppliers. The respondent indicated that the “PRAZ portal serves as a linchpin for the operationalisation of e-procurement”.

However, the usefulness of this portal in enabling e-procurement in local government was heavily contested by an official from the HCC. The respondent indicated that “the establishment of the PRAZ website is a key readiness indicator for e-procurement utilisation, however, this is not much of relevance to council tendering processes because the PRAZ is responsible for conducting goods and services acquisitions above the \$ 500 000 threshold only”. All other procurement below the

prescribed threshold is done by the procuring entity itself. Shakya and Schapper (2017) underscore that most international practices of e-procurement recommend a central government portal where all government agencies can conduct procurement, this is a different scenario in Zimbabwe. Therefore, drawing from the diverse views, it can be established that the functionality of the PRAZ central website is only limited to a certain procurement threshold for government entities like HCC. The use of the e-procurement portal only serves partially, as such local governments like the HCC continue to use manual systems and methods.

3.9.2. ICTS infrastructure

The availability of ICT infrastructure was one of the popular themes revealed as an e-readiness indicator for e-procurement implementation at HCC by internal users. To this end, a sizeable number of key informants stated that HCC has available ICT tools which are critical for e-procurement implementation. The ICT infrastructure pointed out by most respondents includes the availability of computer hardware and software, and internet connection. In an interview, one official from the HCC ICT division pointed to the availability of ICT hardware (computers) and software (information systems) that enable users to store and share large volumes of procurement data across council departments. The respondent suggested that “e-procurement requires conducting business online and this requires a strong internet connection. The council offices are connected on the Wide Area Network (WAN) and Local Area Network (LAN)”. However, the respondent did not determine the level of reliability of the ICT tools to support e-procurement implementation. In an interview academic personnel acknowledged the availability of an internet connection as well, however emphasising low levels of dependability and reliability. The academic personnel indicated this:

"Despite some notable growth of broadband wavelength especially in urban settings like Harare, network connectivity is still a challenge. This is common among government offices where one can fail to get a service because network service is down or slow or a system is offline".

The interview findings reflect that there are low levels of readiness in terms of ICT infrastructure although HCC has some tools like computers that can support the adoption of e-procurement systems. The fieldwork findings were also supported by documents that the researcher came across in the data-gathering process indicating a low e-government development index in Zimbabwe. United Nations Surveys on the E-Government Development Index (EGDI) between 2018- 2022 indicate that Zimbabwe scored relatively low in terms of ICT infrastructure readiness and online service index. The survey findings over the years are presented below in Table 3.3.

Table 3 .5: E-government readiness indicators survey findings

Year	Telecommunications infrastructure Index	Online service index	Rankings out of 176 countries in Africa
2018	0,21666	0,38450	146
2020	0.36880	0.52350	126
2022	0.38430	0.38450	138

Author’s illustration (adapted from UN surveys between 2018-2022 over the years)

According to the UN (2022:49), the EDGI composite indicator measures “the readiness and capacity of government institutions or entities to use ICTs to deliver public services”. This is based on the weighted average of three indices: (1) the Telecommunications Infrastructure Index (TII), (2) the Human Capital Index (HCI), and (3) the Online Service Index (OSI). The findings from UN surveys as illustrated in Table 3.3 above indicate low levels of readiness towards implementing e-government in terms of infrastructure and online service access. More relevant to this investigation is a low Telecommunications Infrastructure Index (which can imply low internet bandwidth, low mobile network or inadequacy) which has negative effect on the operationalisation of e-procurement across the council. The findings illustrate that the HCC fares very low in terms of ICT infrastructure readiness which inhibits progress towards e-procurement implementation. Despite the respondents perceiving the existence of ICT hardware like computers as a key readiness indicator

which serve as basic infrastructure, however there was no evidence of existing supporting tools like ERPs to support development of procurement modules.

3.9.3 ICTs skills

One popular view amongst the participants was that the HCC employees are ICT literate which was interpreted to imply that they have skills to use e-procurement systems. ICT skills are a critical readiness indicator, thus Choi *et al.* (2014: 6) as cited by Transparency International (2021) underscore that the willingness to adopt a new system which is primarily addressed using DOI theory, and technology diffusion also requires that adopters can adapt the new innovation.

In an interview, one respondent from the HCC ICT department indicated that the council has a well-rounded workforce within the ICT division with advanced ICT skills which makes them capable of managing and maintaining the council's online systems. The City of Harare (2023) also provides for the various roles of the ICT department in relation to e-government which include reviewing all computerised and manual systems; information processing equipment; and the definition of the strategic direction of all information processing and communication systems and operations. There was a consensus among Heads of Departments (HODs) that employees across respective user departments mostly have the basic ICT skills, however, there was no certainty if they are sufficient to enable them to adopt an e-procurement system. One HOD had this to say:

“Availability of ICT skills among users at HCC is a critical indicator for e-procurement readiness, but I believe most members do not have advanced ICT skills, however, we already have an ICT Unit to address such shortcomings.”

In an almost similar response, another HOD indicated this:

“Of course, our workforce has ICT skills, however, their level of knowledge with regards to e-procurement cannot be determined since most procurement activities like logistics management, and disposal management are done under the Supply Chain division.”

The research findings do not provide sufficient evidence to establish that HCC internal users (excluding ICT personnel) have the skill competencies to adopt e-procurement as an alternative to manual procurement systems. The interview findings indicate that HCC user departments have the basic ICT skills perhaps, due to the fact that in this modern era of high mobile phone penetration, individuals interact with ICT tools like cell phones on a day-to-day basis. Drawing from the interviews by HCC HODs, the general perception among respondents is that ICT skills readiness is more critical for the ICT and Supply Chain division. However, e-procurement is an interorganisational function (Ilhan & Rahim, 2020:2) which requires internal users to familiarise themselves on how such a system function through skills acquisition. Human resource availability and accessibility of staff and employees that possess certain essential IT skills and knowledge important to carry on with e-procurement initiatives and projects are critical (Chan & Owusu, 2022). In the case of HCC despite procurement management being a major function of the PMU, department members participate in the e-procurement process, through request for orders, product specification, therefore it is pertinent for them to possess ICT skills.

3.10 MANAGEMENT READINESS AND PROSPECTS OF E-PROCUREMENT IMPLEMENTATION AT HCC

E-readiness at the managerial level is vital given the fact that ready people are more proactive to engage in new technological changes, which in most cases make e-government implementation a success (Joseph & Olugbara, 2018). This section presents common themes associated with management readiness to implement e-procurement and how they have influenced the prospects of e-procurement. The findings reflect low levels of management readiness for e-procurement which explains the transition failure toward automated procurement. A common understanding is that organisations tend to leapfrog towards the acquisition of technological tools which either become incompatible with existing systems or users fail to embrace new technologies (Chan & Owusu, 2022). Therefore, Macmanus (2002:10) asserts that the general tendering of governments has been to focus first on the technology needed for e-commerce and then on addressing public policy and organisational issues later. As a result, e-government generally is embarked upon

from a pure technology perspective as a result initiative are started haphazardly as cited by (ibid: 48) referring to Robb (2001:48).

3.10.1 E-procurement skills training

The execution of e-procurement skills training is a key indicator for management readiness for e-procurement. Most respondents indicated that the council had conducted several capacity-building workshops on ICT literacy in the past, however there are varying responses about the adequacy and relevance of such skills training initiatives towards e-procurement implementation. One respondent indicated that “the council conducts training programs amongst departments depending on their ICT needs once or twice a year, however since e-procurement is complex users of the new system may need a refresher course”. Another respondent from the Supply Chain established that the management had liaised for accounting officers to participate in capacity-building workshops provided by PRAZ. The respondent’s assertions were supported by a PRAZ official indicating that the procurement regulator has been engaging in workshops mostly targeting PMU officials, accounting officers, and procurement specialists from government agencies. This is in line with the provisions of the PPDP Act (2018) which provides that PRAZ is required to train government entities to improve their understanding of the provisions of the new Act. Contrastingly one academic personnel indicated that overreliance on the trainings offered by the PRAZ is insignificant in promoting e-procurement implementation at the HCC since the local government may have its own unique training needs.

A PRAZ official further reiterated that PRAZ has embarked on an e-learning program in partnership with the World Bank as part of its Capacity building strategy. The respondent indicated that the e-learning program initiative is still in the piloting stage, it provides procurement personnel with e-learning courses through virtual interactions. This program is meant to upskill personnel who are involved in the formulation of procurement annual plans. However, a key informant from the Ministry of ICT and Courier Services indicated that it is still early to determine if the training exercises are upskilling procurement practitioners as the program has not been fully running. Therefore, drawing from the PRAZ official’s sentiment above there isn’t enough evidence that the training is specifically for upskilling government entities on

e-procurement, however there is a possibility since such is envisaged in the PPDP of 2018. Nonetheless, this study points to the fact that the e-learning programme can go a long way to ensure that HCC procurement personnel are upskilled in terms of e-procurement use. However, the HCC management ought to arrange e-procurement-specific inhouse training programmes since interviews with HCC HODs did not provide any evidence that occasional skills training has prioritised users' e-procurement needs.

3.10.2 Top management support

Maepa *et al.* (2023: 6) underscore that the involvement and support of leadership are paramount for government entities to ensure readiness in adopting and implementing e-procurement system effectively. From the study findings the researcher established in terms of organisational readiness, the HCC had established strategic plans which envisage e-government readiness. Despite this, the study established that e-procurement is a missing link in policy documents, strategies, or even organisational plans which implies lack of top management support for e-procurement implementation. In an interview, an HCC ICT official indicated that "the HCC's e-government policy provides strategic direction towards the implementation of e-government initiatives and this can serve as a starting point for initiating e-procurement". Another respondent established that the HCC e-government policy introduces greater opportunities for streamlined processes through the automation of processes.

In an interview, one HCC HOD indicated that the availability of a strategic guiding plan (the 2021-2025 Strategic Plan) which envisages the need for digitisation provides sufficient evidence of the management's commitment to towards e-procurement. One of the strategic priorities in the City's strategic plan includes the implementation of a Results Based Management System, the modernisation and computerisation of council systems. In a review undertaken by Bandauko (2018) on evaluating the extent to which the city had gone in terms of implementing priorities of the 2021-2025 strategic plan, the author affirms that, the City has not lived up to this expectation since the top management is reluctant to spearhead and fully operationalise some of the proposed initiatives. The same sentiments were shared by one academic personnel indicated that "local governments are not ready to

implement e-procurement initiatives due to lack of strategy because in most instances it is not communicated”.

Document search evidence provides that e-procurement anchors on either a laid-out e-government strategy or a policy or strategy (ADB, 2018) on e-procurement which most organisations fail to do especially at local levels without clear policies and plans. According to Bandaiko (2018) the success of e-government strategy implementation is underpinned by the creation of effective leadership and commitment at all levels which the HCC is lacking. One official from the HCC Supply Chain department indicated that e-government initiatives in local government lack explicit prioritisation, for instance if the Strategic plan has a long list of initiatives that need to be adopted, and no clear priority is placed amongst them. The result is that often only partial work will be done on all the initiatives, without completing any. The research deduces that this could be the issue of e-procurement that has not been adequately pursued at the policy level by top management at HCC.

3.11 ENVIRONMENTAL READINESS AND PROSPECTS OF E-PROCUREMENT IMPLEMENTATION AT HCC

The following discussion provides for the common responses that are related to environmental readiness for e-procurement implementation in HCC. Public entities unlike private entities are regulated by laws and policies at the central government level and such has implications on how e-procurement policy is executed at any government level. Since the HCC is a government entity e-government policy law or any decisions done at the central government level influence local e-government policy.

3.11.1 Community Information Centres (CICs)

Community Information Centres (CICs) were along the key emerging e-readiness indicators that can support the implementation of e-procurement at HCC. A PRAZ official established that “the Ministry of ICT in partnership with POTRAZ and PRAZ are establishing Community Information Centers (CICs) across districts in Zimbabwe in line with the government's vision of becoming a knowledge-based economy by 2030”. The same sentiments were shared by an official from the Ministry of ICT who responded that "the government so far has established over one hundred and forty-six (146) CICs across Zimbabwe in a bid to tackle the digital divide and the Harare

Metropolitan is set to benefit from such initiatives, especially suppliers' side". The availability of CICs provide readily available ICT infrastructure for HCC supply chain stakeholders for instance suppliers which can go a long way in addressing the digital divide challenge in Zimbabwe.

In support of the above sentiments, in response to the researcher's inquiry on what PRAZ has done to create an enabling environment for e-procurement implementation, one PRAZ official in an interview indicated that PRAZ had partnered with ZIMPOST to ensure smooth functioning of CICs dotted around the country. This has provided an opportunity to outline ease of doing business in terms of public procurement thereby fulfilling the government's objective of the reforms in public procurement. Again, this initiative enables bidders to register with PRAZ online addressing the infrastructure challenges. The availability of CICs creates an enabling environment for e-procurement implementation at HCC, it can enable small and medium enterprises who usually suffer much from the digital divide to be able to do business with the council. Therefore, CICs play a critical role in enabling e-procurement adoption especially from suppliers' side, such can support e-procurement implementation at HCC.

3.11.2 Laws and Policies

The study established that the availability of laws and policies created an enabling environment which can support HCC to embark on e-procurement implementation. In an interview, one academic personnel established that Zimbabwe had e-government laws, such can provide as a baseline for further development of e-procurement specific laws. The same assertions were echoed by the ICT Ministry official pinpointing the availability of policy and legislative frameworks, PPDPA 2018 like the National ICT policy of 2016. However, in a bid to elaborate the efficacy of legislative, the official argued that:

"As much as the legislative frameworks support e-procurement, the same laws limit the effectiveness of e-procurement initiatives. The PPDPA 2018 has provisions for e-procurement however; this does not provide any strategic direction for e-procurement implementation. The Acts have several drawbacks which limit the use of e-procurement".

In as much as some corroborating views on legislative readiness were observable more collected evidence from examination of the literature and interview findings indicate that there are major weaknesses in the provisions of the legislative frameworks to support e-procurement. In an interview, academic personnel had this to say:

“To date, no amendments have been made to the legislation and regulations governing public procurement at local government to accommodate the introduction of electronic public procurement technologies and to facilitate the process of reform”.

The researcher after the careful review of the PPDP Act established that the only provision made for the introduction of e-public procurement is the provisions of Section 3 of the PPDP Act of 2018. Reference to e-procurement is made only once when the Act provides that procurement should be done using online tools.

The document search findings were echoed by a member of the HCC Supply Chain unit who indicated that “PRAZ expects public entities to adopt e-procurement, however, the legal guidelines are a fallacy as there are a lot of inconsistencies”.

Moreover, academic personnel expressed a lack of readiness in terms of legal frameworks which is revealed in the interview excerpt:

“I am not convinced that these nods in the direction of e-procurement are genuinely embedded within Act’s paradigm of procurement. The minimal provision made for the regulation of e-procurement in the legal and regulatory framework leads to uncertainty regarding the procurement process.”

An analysis of the PPDP Act 2018 revealed that there are many examples in the Bill where an outdated, manual, and paper-based paradigm of procurement seeps through. For example, the Bill explicitly provides for a response for bidding that needs to be communicated in writing. Sections 36 and 43 read as: “Communications between bidders and the procuring entity shall be in writing, and a procuring entity shall not entertain or respond to a communication from a bidder that is not in writing”. Section 43 provides that submission of bids or applications to pre-qualify (1) Bids and applications to pre-qualify shall be submitted in writing. Therefore, drawing from the above findings, it can be summed up that despite having legal frameworks, the

PPDP Act as an e-readiness indicator, is only at an extremely low level. An analysis of the Act as well as interview findings raised a lot of red flags on the efficacy of the PPDP Act 2018 to inform e-procurement implementation.

3.11.3 National E-government Procurement Strategy

The study findings are inconclusive on the availability of a government wide procurement e-procurement strategy. There was a general perception that a strategy exists basing on the central government pronouncements and media reports. For instance the World Bank (2018b) reported that funding for the development of an e-procurement strategy to guide the implementation of e-procurement has been availed to the government. The e-government strategy is perceived to provide the strategic direction for the e-procurement implementation trajectory. However, in an interview, the Ministry of ICT official had this to say

“These things can be said, but these documents are not available. There is no strategy. If you are called to present your strategy. There is no strategy.”

More responses from other key informants established that the idea of an e-procurement strategy was pure rhetoric as there is no substantial evidence to justify its existence. The interviews highlighted the presence of an e-government strategy referring to the World Bank’s (2017) affirmations. One official had this to say

“Press reports pinpoint the idea that the government has formulated an e-government strategy, which is a key readiness indicator for e-government procurement however it is difficult to support such sentiments with no knowledge of its provisions. An e-procurement strategy sets the tone for e-government procurement at all levels of government, starting from the procurement regulator, therefore this influence positively towards e-procurement implementation”.

However, further inquiry made by the researcher established that the government in its entirety has not formulated a strategy that sets out e-procurement priorities for government agencies and departments. One Supply Chain unit official indicated that if a strategy existed, it had not been availed to the general public as well as government departments. Relatively one HCC HOD indicated that there is no clarity that a strategy exists, the issue remains hazy for use government entities on how best to institutionalise e-procurement. Therefore, it can be deduced that for

government entities like HCC no guidelines exist for e-procurement which can hinder progress towards implementation.

3.12 CHAPTER SUMMARY

The thrust of this chapter was to offer a solid connection between e-procurement readiness levels and e-procurement implementation prospects at HCC. E-readiness was explored across three dimensions which are technological readiness, management readiness and environmental readiness. The study identified several e-procurement readiness indicators available for the HCC which include the availability of a web portal, ICT hardware, ICT skills, and top management support. Despite the availability of e-readiness indicators HCC fares poorly among the established indicators which influenced negatively on the prospects of e-procurement implementation. For instance, the e-procurement phenomenon across the council is overshadowed by the general e-government agenda. Most key readiness indicators (ICT skills, e-government policy) are related to e-readiness towards the adoption of the e-government agenda. Hence, it can be established that e-procurement has not yet gained recognition as a key separate phenomenon that needs to be incorporated across council policy, strategy, and planning procedures. The study established that low e-procurement readiness levels at HCC influence negatively on the prospects of e-procurement implementation.

E-procurement success is predicated upon the level of readiness of an organisation (Mustafa, *et al.* 2016:6). This study helped in establishing the extent to which various e-readiness indicators have influenced the possibility of initiating the implementation of e-procurement at HCC. The UN (2018) is of the view that organisations tend to leapfrog to the implementation stage with zero regards for the readiness of e-procurement. This is because e-readiness assessments are mostly centered on examining the technological indicators of e-government readiness while side-lining other readiness indicators. An examination of e-readiness at HCC from the managerial, technological and environmental dimensions, helps in providing a comprehensive and standardised approach that can be used as an e-procurement readiness benchmark in a local government context. Additionally, such a benchmark can be used in gauging and comparing e-procurement readiness among local government indicators to determine the decision to adopt and later implement e-

procurement. Algahamndi *et al.* (2011:225) underscore that the design of e-government readiness requires a comprehensive measurement, therefore the significance of this chapter is that it raised awareness of the capacities that must be in place to ensure a reasonable foundation for success in the e-procurement development process at HCC. The following chapter investigates determinant factors for e-procurement system implementation and performance effectiveness which inform a framework guideline for e-procurement.

CHAPTER FOUR: FACTORS THAT INFLUENCE THE DESIGN, AND DEVELOPMENT OF A FRAMEWORK FOR E-PROCUREMENT IMPLEMENTATION TOWARDS EFFECTIVE SERVICE DELIVERY IN LOCAL GOVERNMENT

4.1 INTRODUCTION

The previous chapter assessed the level of e-readiness and how this has influenced the prospects of e-procurement implementation at Harare City Council. E-readiness was assessed along three major dimensions which are managerial, technological, and environmental readiness. This chapter seeks to investigate factors that are determinants of e-procurement implementation as well as the factors that influence the operational effectiveness of e-procurement systems for effective service delivery. Singh (2020:4-5) emphasises the idea that policy implementation is critical in filling the gap between policy promises and policy outcomes, however, the process itself is complex and multi-faceted and has yet to be well understood. While there is extant literature on e-procurement adoption addressing critical success factors in government (Vaidya *et al*, 2007; Angeles & Nath, 2005, Zitha *et al*, 2021), Ilhan and Rahim (2020) in a study examining e-procurement in local municipalities underscore that there is a lack of clarity on how buying organisations generally undertake when implementing an e-procurement system to link with suppliers. Relatively, Adjei-Bamfo *et al*. (2019:189) assert that there is little knowledge on how governments' deployment of electronic and internet technologies may be leveraged to stimulate sustainable supply chain management. Shahin *et al*, (2022) underscore that despite previous studies establishing critical success factors, the same determinant factors are perceived to differ according to organisational structure, the size of the entity and the sector to which the entity belongs to, policies and expectations from the e-procurement initiative.

In the public sector there continues to be a general lack of awareness of how digital technology can change public service design to deliver agile, easy-to-use services in a way that emulates daily experiences, as it is done in the private sector (Brown *et al.*, 2014). Likewise, Hardy and Williams (2008) postulate that gaps remain to examine how abstract e-government policies are transformed into successful public procurement practices. Nawi *et al*. (2016); Ilhan and Rahim (2017) underscore that there are limited studies that illustrate activities associated with the process of e-

procurement implementation. More specifically in local government, Bromberg and Manohoran *et al.* (2022:361) underscore that there remains a lack of general understanding about e-procurement implementation even though local government procurement is a major component of modern public administration. Therefore, such a lack of understanding crystallises the need to build a common view of what the transition to e-procurement involves which is the main focus of the chapter.

Further, Aduwo *et al.* (2020) submit that most existing studies on e-procurement adoption are based on the general assumption that adoption is influenced by a myriad of factors. In as much as these studies provide insightful knowledge on adoption issues, there is a failure to note the difference between adoption (which is a decision) and implementation (which is continuous use). Implementation of system includes three stages which include design, development and run (Open Contracting Partnership, 2022: 34). Successful e-procurement implementation occurs when there is a continuous and extensive utilisation of e-procurement systems to support the execution of procurement-related tasks (Aduwo *et al.*, 2020:741). Chen *et al.* (2021) assert that most studies do not examine the post-adoption phase of e-procurement in government, hence it is important to examine the determinants of e-procurement system sustenance. The consideration of determinant factors of e-procurement implementation in this chapter will inform the generation of a framework for e-procurement. An implementation framework can provide a structure for describing and or guiding the process of translating effective interventions and research evidence into practice, analysing what influences implementation outcomes, and evaluating implementation efforts (Malone & Bucknall, 2010:24).

The key to a successful implementation is not simply related to the chosen e-government procurement system application with all of its features and functions but has more to do with the government and how it organises itself to manage the business delivery of the system (ADB, 2013:32). According to Khan and Khandaker (2017:359) many prescriptions to successfully employ these initiatives have been proposed in the literature. However, it seems that a great deal of customisation effort is necessary to be done over these proposed prescriptions for the best fit within different organisations' internal or external environments (World Bank, 2021). Khan and Khandaker (2016:360) citing Meter *et al.*, (1975) underscore that the

implementation of a particular policy is very much context-specific because it depends on political, social, economic, organisational, and attitudinal factors that influence how well or poorly a policy or programme is implemented. This study focuses on the e-procurement implementation specificities of a decentralised model of e-procurement within a local government in a developing country context.

Further, the chapter reviews case study experiences of e-procurement implementation from the local government and national level. Procurement reform in the public sector includes the need for conformance to the best practices of which governments usually emulate what their international counterparts would have adopted (ADB, 2018:3). Similarly, this study subscribes to this view that implementing procurement reform requires a government or any entity implementing it to conform to the best practices so that the process becomes seamless. A cursory analysis of e-procurement implementation experiences in nine (9) countries is done, such proffer feasible recommendations for implementation at Harare City Council. Countries like South Korea, and Rwanda exemplify successful case studies for e-procurement implementation while Ghana, Tanzania, and Tunisia provide similar contextual situations in developing countries. In addition, public procurement reform progression in Zimbabwe exudes a lot of similarities with that of Ghana, Rwanda, and Tunisia since reforms in these countries were spearheaded by the World Bank (Munyede & Mapuva, 2020:2). Upon the analysis of implementation case study experiences, the outstanding question would be; what key lessons can the HCC learn?

4.2 E-PROCUREMENT IMPLEMENTATION EXPERIENCES AND CASE STUDIES

The aim of discussing experiences in this study is to visualise e-procurement implementation in offshore and onshore settings and examine the practicality in different contexts. The study reviews case studies from both developing and developed countries where e-procurement has been adopted and implemented. A few international countries such as the United Kingdom, and the United Kingdom have seen progress in the right direction in terms of e-procurement implementation at local government as shall be presented in this chapter. The study focused on both local government and national level contexts in reviewing e-procurement implementation experiences. This is because e-procurement systems can be either

decentralised or centralised. Centralised e-procurement system presents a unified information infrastructure for procurement rather than centralisation of procurement itself (ADB, 2013:23). In this setup procurement remains a decentralised activity across government entities, however, the entities remain using a common infrastructure which is the central government portal just like other common commerce government infrastructure like national laws, banking systems. In a decentralised e-procurement system, government entities have to acquire locally managed e-procurement systems that allow them to execute procurement functions independently.

The case studies experiences reveal that e-procurement is an emerging concept, especially within the developing country context, it presents several challenges as evidenced by studies by Adjei- Bamfo *et al.* (2019), Ofori and Fuseini (2020:4). Afolabi *et al.* (2019:1) confirm these findings underscoring that e-government adoption in developing countries is taking place at a painstakingly slow pace. The analysis and examination of case studies enable good practices, recommendations to be identified, and considerations for additional improvements (OECD, 2016:39). The choice of case studies reviewed for this study was informed by two distinct reasons. Firstly, case studies like Rwanda, and Tunisia which took a resemblance to the Korean model of e-procurement, were chosen as they were spearheaded by the World Bank, a similar case in Zimbabwe. It is pertinent to examine the same case studies which can provide more relevance. Secondly, other case study experiences adopted in this were for comparative purposes which allows the researcher to identify some best practices that can be incorporated within the local government depending on their needs.

4.2.1 Austria: Case study of Vienna City Council

Vienna City Council implemented an e-procurement system known as "Kokauf Wien" as part of its Sustainable Procurement Programme (SPP), a project that aims to increase the level of sustainability and social responsibility in the City's procurement processes (City of Vienna, 2022). According to the European Union (2015:1), the Kokauf Wien system also provides a platform for suppliers to offer their goods and services to the City and allows for easy comparisons and evaluations of different suppliers. Kokauf Wien is organised across various municipal departments and

makes use of the existing structures and resources of the City of Vienna. E-procurement at Vienna City Council was a three-phased process that involved planning, implementation, and post-implementation evaluation processes. The planning step included the formation of the project team which was responsible for planning and managing the implementation process. Initially, the council adopted policies and guidelines under a program called "e-Vergabe", (e-tendering) and these provided a comprehensive approach to the e-procurement process (European Union, 2015).

Moreso, the European Union (2015) underscores that successful e-procurement at Vienna City Council can be advised in terms of organisational strategy, technical infrastructure, and user adoption process. Firstly, the City Council leveraged technology which is integrated with the council's existing ERPs to improve procurement processes. Additionally, the City of Vienna (2022) remarked that the city council also focused on achieving user adoption through availing comprehensive user training. The development of an e-procurement strategy was fundamental to the implementation of e-procurement as it articulated the goals of the implementation process (City of Vienna, 2022). Guidelines for using e-procurement (step-by-step instructions) technical guidelines and manuals (providing technical specifications of e-procurement systems) were adopted through the e-procurement programme.

A key novelty of procurement reformation in Austria was the obligation of government entities to handle electronic means enforced through the Public Procurement Act of 2018 (Walther & Blocha, 2018). This legislation made the use of electronic means mandatory, providing an enabling framework for government entities like the Vienna City Council to reform their procurement arrangements. Additionally, the Vienna Smart City Strategy (2020) provides for the use of ICT infrastructure for executing procurement functions, hence this served as a supportive framework for implementing the '*Kokauf Wien*'. Overall, the implementation of the e-procurement system was aligned with the City's overall goal of becoming more sustainable and socially responsible as provided within the Vienna Smart City Strategy of 2020.

According to the European Union (2015:2) political support and inter-collaboration from stakeholders beyond the organisation were essential for overcoming obstacles

in the implementation of e-procurement. The internal political support, coupled with its cross-cutting implementation basis and collaboration from entities outside the city administration, were the e-procurement system's supporting foundation which made it a key success. The e-procurement programme was driven by a Steering Group which was composed of experts from the Chief Executive Office of the City Council, the Office of the Administrative Group for Environmental Affairs, Vienna Press and Information Services, and the relevant municipal departments (European Union, 2015). Thus, the effective implementation of the system was successful due to collaboration and stakeholder consultation. Most of those who were involved in the programme were employed by the city and performed their programme tasks in addition to their actual functions. Suppliers have been involved in Ökokauf Wien in an ad-hoc manner, through conferences and workshops (European, 2015).

4.2.2 United States: Case of New York City Council

The New York City (NYC) under the Mayor's Office of Contract Services (MOCS) launched an end-to-end digital Procurement and Sourcing Solutions Portal (PASSPort), which has become the default mode of purchasing for the city council as indicated by the City of New York (2019:4). The office worked collaboratively with the Office of Citywide Procurement (OCP) which is also responsible for operationalising the City's procurement strategy. According to Mitchell (2019) NYC's e-procurement implementation is not just a technology automation project, but rather a transformation effort to bring older processes and practices into the modern age. Hence MacNally (2019:1) underscores that in undertaking procurement reform at the New York City Council, the major lesson was that the technology solution was not the most important aspect. The people, process, and organisational culture are what mattered most and everyone needed to know how to 'meet the change,' and refocus business processes. The partnerships nurtured at all levels of government and with industry leaders who were eagerly awaiting comprehensive changes to NYC procurement contributed to the successful implementation of e-procurement (McNally, 2019).

According to the City of New York Strategic Review (2021) there has long been interest in optimising procurement, with a variety of updates and a patchwork of tools deployed over the years. Mitchell (2019) stipulates that the MOCs partnered with a

technology partner Ivalua, a software solution provider in the first phase of its implementation. It was established immediately that the technical challenge would be equalled by the business process reengineering task that they would face. Ivalua worked closely with the MOCS team to implement phased product design and delivery that is closely aligned with the City's procurement transformation roadmap (MacNally, 2019). Over the years, consecutive system releases have positioned PASSPort to standardise and accommodate the end-to-end procurement process from sourcing to contract registration and invoice payment (the City of New York Strategic Review, 2021:4). The roadmap to streamline activities by connecting agencies and vendors on one common platform was first established in 2010, accordingly *ibid* (2021:3) asserts that the PASSPort delivered a remarkable foundation for city-wide procurement already demonstrating significant improvements in procurement activity cycle time and transparency.

The digitisation of New York City's procurement through PASSPORT was a major step forward in delivering a more effective and timely experience for agencies and vendors. The City of New York 's Procurement Strategy (2021) points out that the city invested wisely in updating its procurement technology and its evaluation of how to refine its overall procurement model as cited by the City of New York (2021:4). It was also critical for New York City procurement department to work with city leadership to validate the procurement strategy and goals to conform with Key Performance Indicators (KPIs) (City of New York, 2021:10). From vendor management to source-to-contract procurement, PASSPort is transforming how procurement is done in the City, a success that can be attributed to the City's collaborative efforts with the procurement community. Throughout this transformation process, the City of New York has distinguished itself by how its vendors are engaged to identify issues, partner to co-design solutions, and shape implementation and ongoing monitoring of reforms (European Union, 2015: 22). Conclusively, in analysing e-procurement at the New York City, MacNally (2019) asserts that a key important lesson and a great reminder for any digital procurement initiative is a focus on recruiting leaders, building teams, and nurturing partnerships and maintaining the unwavering commitment that can bring a vision into reality.

4.2.3 Rwanda: Case study of Kigali City Council

The implementation of an e-procurement system called UMCYO in Rwanda in 2017 was a huge success story (World Bank, 2018b :3). According to the World Bank (2022:98) UMCYO is a customised version of the Korean e-government procurement which has proven to be efficient in enabling the government to meet its procurement goals. UMCYO is a web-based and workflow-driven e-procurement system, which was developed as part of the World Bank Funded Public Sector Reform Program-for-Results (Dinka, 2016). The UMCYO consists of an online portal with modules for advertisement, e-bidding and disposal, evaluation, contract management, inspection and acceptance, framework agreements, catalogue, and shopping mall, where suppliers can register and submit bids online. The initiative at Kigali City Council was part of the government to bring an overhaul towards public procurement at all levels of government in Rwanda. The government had to rethink the public procurement process with digital technologies in mind. The World Bank (2018 a:3) underscores that Rwanda has been one of the African countries that have progressively embraced e-government thus, it has been praised to be a fast-leading country in driving e-procurement reform in Africa.

Initially, before government entities like Kigali City Council adopted the e-procurement system, a feasibility study was undertaken countrywide called the Rwanda Development Program. According to Dinka (2016:4) the Rwanda Development Program established several challenges associated with the traditional systems of procurement which included inconvenient business registration, management information inefficient documents, and records management systems. Therefore, based on the feasibility study recommendations, the Public Procurement Authority set the following objective in developing the Rwanda e-GP: "Reinforcement of national competitiveness by improving transparency and efficiency in the procurement". Dinka (2016:3) contends that initially, the government launched a pilot system in mid-2016 and rolled out e-procurement nationwide in mid-2017. The World Bank partnered with the Korean government in providing funding to establish a pilot e-procurement system worth US\$12.5 million (World Bank, 2016:3). This partnership was through a joint venture according to the Rwanda Development Board, (2014) as cited by the World Bank (2022:97) and this agreement also widened funding for the project. As part of implementation efforts, the World Bank also provided technical

support by sending e-procurement experts to Rwanda every six months to enable them to gain practical experience in the development and use of e-procurement systems.

Local councils like the Kigali City Council have received support through government initiatives in which it has provided training for officials in pilot organisations and business communities on the use of e-procurement systems (Omwono & Sazir, 2020:282). The training was extended to internet cafe operators as well, to ensure that Small and Medium Size Enterprises have access to opportunities in public procurement. Implementation of the e-procurement system at Kigali City Council was spearheaded by the availability of regulations that support the use of the e-procurement system, the World Bank (2021:68) underscores that in line with the Rwandan law, all public procuring agencies had to use the e-procurement platform after the inception phase. It can be established that the Rwandan experience, that it was beneficial to partner with experienced e-government procurement owners (Korea) which helped in avoiding overruns and implementing an efficient solution. (World Bank, 2016:99).

4.2.4 Korea: Case study of Seoul City Council

According to the OECD (2016:115) Korea offers many lessons for countries considering the development or expansion of e-procurement tools and systems. Seoul City Council's e-procurement implementation is an excellent example of how digitalisation can streamline and modernise procurement processes, making them more efficient and transparent. The Seoul City Council adopted an e-procurement system called e-Seoul purchasing which was part of the Korean e-procurement system called KONEPS. According to Transparency International (2014:7), the Korean system was a result of the Public Procurement Service's (PPS) efforts since 1997 to innovate and digitalise the procurement processes and systems. The decentralisation of procurement from the central government to the local government in 1993 was accompanied by the digitisation of procurement administration to respond to decentralisation needs (Kim, 2008). KONEPS was launched as a government-wide project for the development of electronic governance and this helped to diffuse the achievements of e-procurement to all public organisations at all government levels.

In the preparatory stages for e-procurement adoption, in 1995 the Public Procurement Service (PPS) of Korea drew up the Procurement Electronic Data Interchange (EDI) Plan. Based on the plan, a pilot project for procurement EDI commenced in 1997 (Lim *et al.*, 2009: 747). It was the announcement of the Procurement Electronic data interchange system that served as a foundation for a comprehensive modern procurement system (Kim, 2017:137) as it compelled agencies to use e-documents. In a bid to spearhead e-procurement implementation a Presidential Committee made up of private investors and government officials was established to spearhead implementation of e-government projects (World Bank, 2018). Kim (2017) contends that the committee was also created to promote interagency collaboration in negotiating issues concerning government initiatives. Additionally, the Special Committee for e-government comprehended that the e-procurement project's benefits were government-wide and the development should be funded by a special fund, the Information Promotion Fund (IPF) (Ibid, 2019).

The Korean government's keen policy for promoting a modern legal and institutional infrastructure appropriate for a knowledge-based economy facilitated the development and adoption of an e-procurement system (Kim, 2008). The government also made a conscious effort to develop a regulatory and legal foundation to facilitate and reinforce the e-procurement system. The World Bank (2022:7) provides that the policy measures and legal framework promoted active collaboration of private and public sectors for efficient commercialisation and digitisation of the PPS. For instance, the 'Electronic Promotion Act on Administration Processes for the Establishment of an e-Government' was enacted to accelerate e-government projects. KONEPS was designed as a modular system from its initiation, allowing any number of security, access, or efficiency-oriented technologies to be added as they materialised (OECD, 2016:24). KONEPS integrates both centralised and decentralised procurement markets and provides a single window for public organisations and suppliers to transact more convenient as postulated by Lim *et al.*, (2008:744). It is also integrated with the digital budget and accounting system of the Korean government (Transparency International, 2021:22).

The Seoul Council managed to effectively implement e-procurement successfully due to the availability of Internet and ICT infrastructure. Korea is ranked as the

world's top broadband internet infrastructure, serving various channels of internet and mobile-related business activities. Additionally, the OECD (2016) postulated that the government provided the opportunity for training for using the e-government procurement system. KONEPS is a system that is built based on the multiple networks of participants and stakeholders, thus effective collaboration among these players was necessary to synchronise the system which can efficiently connect related players (Lim *et al.*, 2009:756). Thus, the timeliness of the Korean government's active leadership in setting up the e-government infrastructure, and ensuring collaborative actions among different stakeholders were contributing factors to the success of the e-procurement initiative.

4.2.5 United Kingdom: Case study of Nottinghamshire City Council

The use of artificial intelligence and automation has gained prominence in the United Kingdom's procurement processes, which has led to the adoption of e-procurement. The City Council of Nottinghamshire adopted an end-to-end e-procurement system called Procontract, which has enabled the council to deliver efficient procurement practices. The implementation of e-procurement was guided by the Nottinghamshire County Council Procurement Strategy (2015-2018) which established an ambitious programme to transform procurement through introducing electronic tendering. The Nottinghamshire Council has clearly stated in its Procurement Strategy of 2019-2023 that one of its key principles is "Innovation in Performance Management to ensure we are getting the most from all our commissioning and contracting arrangements". This procurement strategy cuts across all aspects of the Council's Strategic Plan and it is perceived to be integral to the overall success of the council in achieving its strategic aims. Subsequently, the White Paper Transformation (2019) attributes the success of the Procontract project to the Nottinghamshire City Council Procurement Strategy (2019-2023) which has a critical role in helping to deliver these services in a manner that secures the appropriate balance between cost-effectiveness, quality, and sustainability.

The availability of supportive legislative frameworks that enable the conduct of online transactions ensured vendors, suppliers, and other stakeholders to be a recipient of the new system of procurement, this was critical for the implementation of e-procurement. The National Procurement Strategy for Local Government in England

(2018) provides for the exploitation of digital technologies, and this spearheads progress in the adoption of e-procurement in local governments including Nottinghamshire. Accordingly, the Uniform Electronics Transactions Act grants legal recognition of electronic records, e-signatures, and electronic contracts, therefore there was less resistance from the stakeholders. The city of Nottinghamshire's Procurement strategy for 2019 – 2023 sets out the city council's ambitious goal of attaining value for money in service delivery. The UK Government White Paper Review (2021:15) provides at the Nottinghamshire City Council increased investments in central infrastructure in the form of an IT platform to hold a range of information not currently available, such as the supplier registration system, the debarment list and register of commercial tools.

The success of Nottinghamshire exposes the importance of top management support and good leadership in the implementation of innovations. Grandia and Meehan (2017) put across that e-procurement innovations are foreign to organisations and in most instances are likely to meet a lot of resistance, and in such scenarios, it is critical to have support from the strategic apex of an entity or organisation. The Nottinghamshire City Council additionally benefited from the guidance of the UK Cabinet Office in implementing e-procurement. In terms of institutional framework, the Cabinet Office is responsible for overseeing public procurement in the UK government (UK Government White Paper, 2021:3). The office additionally provides guidance and support to departments and agencies and is responsible for the development and implementation of e-procurement solutions, which is expected to further streamline the procurement process and make it more efficient. Internally the council invested in training and coaching staff members to build their capacity in the use of the new system. Therefore, it developed an e-learning model that provided council staff with an understanding of procurement and contract management (City of Nottinghamshire, 2019). Nottinghamshire is one of the few authorities that is using the e-procurement portal for its end-to-end procurement processes thereby delivering efficient procurement practice.

4.2.6 South Africa: Case Study of eThekweni Metropolitan Municipality

South Africa is among the few countries in Southern Africa that have adopted e-procurement tools as a measure of conducting the procurement process within local

government and eThekweni Metropolitan Municipality is among the aforementioned. The eThekweni Metropolitan Municipality served as a precedent for other local governments and entities (businesses) to adopt e-procurement systems. The eThekweni Metropolitan Municipality introduced an e-procurement system called the Supplier Self-Service System (SSS) in 2011 and it was implemented in 2014 (Duma, 2018:1). The system enables the publishing of bids, gathering of bids, conducting the automatic selection of the supplier(s); and converting requisitions into orders and sending them to the approved supplier (eThekweni Supply Chain Policy, 2022). According to the eThekweni Metropolitan Municipality Annual Report of 2014 the e-procurement system's aims and objectives are to have equitable, transparent, and fair Supply Chain processes where all businesses of service providers will have the same opportunities through automatic rotation without interference from officials. The system has several key features which include a central supplier database that provides a simple and secure mechanism for the submission of supplier applications and the registration of validated supplier data. The system also enables online bidding and automates the procurement process from the initial order request to contract management (eThekweni Supply Chain Policy, 2022).

The eThekweni Metropolitan Municipality took a phased approach towards e-procurement implementation over two years to complete the process (Duma, 2018: 2). The Office of the Chief Procurement Officer (OCPO) which is the body responsible for monitoring and coordinating the implementation of procurement policy in South Africa played a significant role in the implementation of the Supplier Self-Service system. According to the OECD (2021) the office has the overarching regulatory responsibility to monitor and evaluate public procurement performance in government and to modernise public procurement systems for greater efficiency and transparency. The eThekweni Metropolitan Municipality's e-procurement was implemented in line with the OCPO's National E-procurement Strategy. Additionally, the system was designed to be compliant with the Public Finance Management Act which is a key legal piece that regulates the use of public funds to promote value for money, transparency, and accountability in the South African public sector (Duma, 2018). The OCPO provided training to relevant stakeholders including procurement staff, suppliers, and contractors to support the e-procurement initiative. As part of the implementation process, the OCPO worked with the eThekweni Metropolitan

Municipality to integrate the e-procurement system with the council's financial systems.

In addition, critical to the municipality's e-procurement implementation system was the National Treasury Instruction Notes, which guide procurement officials on how to use e-procurement systems effectively. For Public Finance Management Act Supply Chain Management Instruction (2022/23) Number 09 provides for mandatory utilisation of the e-tender portal for the Publication of bid opportunities in all government entities. Duma (2018:60) underscores that the e-procurement provided a user-friendly interface that improved the ease of use of the system by the staff. The eThekweni Metropolitan Municipality Report (2014) reveals that the availability of trained and capable staff, and clear procurement guidelines were crucial in ensuring all staff involved in procurement understood their roles and responsibilities. A key element of successful e-procurement was the advanced preparation of a corresponding legal framework in South Africa which has been beneficial towards successful implementation. According to World Bank (2021) the Electronic Communications and Transactions Act of 2002 and the Promotion of Access to Information Act of 2000 provide a legal framework for the protection of electronic transactions and access to information respectively.

Furthermore, the Electronic Communications and Transactions Act 25 of 2002 although not directly regulating public procurement, appears to promote the use of e-procurement for commercial purposes (Anthony, 2018:2). The principles in section 217 of the Constitution require that when the government contracts for goods and services, it should do so by a system which is fair, equitable, transparent, competitive and cost-effective (eThekweni Supply Chain Policy, 2022). These pieces of legislation have served as supportive legislation for effective e-procurement implementation at eThekweni Metropolitan Municipality. Of much significance in the implementation of e-procurement for the EThekweni Metropolitan Municipality was the development of a Supply Chain policy in 2022 that envisages the use of electronic tools for conducting procurement (EThekweni Supply Chain Policy, 2022). E-procurement process is also supported in other legislations which include the Municipality, Financial Management Act (MFMA) of 2003 and the Public Finance Management Act (PFMA) of 1999 which mandates government entities to procure

goods and services in a transparent and accountable manner. Overall, the eThekweni Metropolitan Municipality 's implementation of the e-procurement system is a positive step towards improving transparency, accountability, and cost-effectiveness in the procurement process while promoting the empowerment of previously disadvantaged individuals and local businesses.

4.2.7 Case study of Ghana

Ghana is implementing an electronic government procurement system, known as the Ghana Electronic Procurement System (GHANEPS). Initially, the adoption of the e-Ghana project in 2010 laid a strong foundation for the development of the e-public procurement system in later years (Public Procurement Authority of Ghana, 2019). The procurement reform process was spearheaded by the Public Procurement Authority (PPA) and the Ministry of Communication (ibid, 2019). The system has been under development for two years, it then went live with a pilot phase for six (6) months. GHANAEPs's first phase of the e-procurement project targeted five government agencies and the second phase targets all thirty-four (34) government ministries, public universities, and metropolitan assemblies (Whitehouse, 2019). In a bid to spearhead the reform, the PPA inaugurated and swore in a 17-member Steering Committee to oversee the successful implementation of GHANEPS (Osei-Tutu *et al.*, 2019:5).

The GHANAEPs implementation received funding from the World Bank with a budget of US\$2 million (Osei-Tutu *et al.*, 2019:6). The fund's injection helped in the completion of the system engineering processes and consolidation of all the system requirements specification which would enable effective configuration as well as parameterisation of the system despite process taking a lengthy period to complete. Under the e-Ghana project, internet infrastructure was established for all government offices across the country while Community Information Centres (CICs) were established for the public to have ease of access to the internet. The roll-out phase was initiated immediately afterwards in November 2019 to be completed by the end of October 2023. Thus a phased approach, where lessons would be learned along the way was opted for in Ghana.

Taking advantage of the e-Ghana programme, strides to embrace ICT were made at the PPA. By 2010, PPA had successfully developed two web-based applications that

were aimed at assisting public entities, their suppliers as well as their contractor's inefficient procurement (Ofori & Fuseini, 2020). This was also complimented by a functional PPA website and an online system, which enabled public entities to place their annual procurement plans online so that PPA could easily monitor their procurement processes. The development and implementation of e-procurement meant that the Ghanaian government had to make certain changes to enable a successful launch. The existing public procurement regulatory framework (The Procurement Act 663) had no provisions for the use of an e-procurement system for the execution of procurement processes and activities. This brought about the amendment of Act 663 which came in the form of (the Procurement Act, 2016, Act 914) to make room for the use of electronic tools in public procurement processes (Ofori & Fuseini, 2020:13).

Despite the initiatives by the government and its partners, the implementation of GHANAEPS has faced challenges thus the longevity being experienced. The PPA of Ghana (2022) underscores that statistics continue to show levels of adoption of the systems by public entities; however, Ghana still has a long way. Amongst the challenges is poor funding, and inadequate ICT infrastructure which is stalling adoption and implementation progress, especially within the public sector discourse. Hence, Transparency International (2019) underscores that the reform process is still ongoing, such that lessons are not yet discernible at this stage. Therefore, as the central government has failed to transition towards online procurement, local governments have a long way to go as far as the adoption of e-procurement is concerned. In most instances, initiatives that are initiated at the top are easier to adopt at the local levels.

4.2.8 Case study of Tanzania

According to Hivos (2020) the year 2018 marked the introduction of Tanzania's e-Procurement System (TANePS), a platform that seeks to migrate all public procurement processes online. This platform is a web portal boosted by the Public Procurement Regulatory Authority (PPRA) of Tanzania to support the procurement of goods, works, consultancies, non-consultancies, and disposal of assets. Initially, the Tanzanian government made some legislative amendments to support e-procurement implementation. For instance, the Public procurement regulations of

2013 recognise TANEPs as a web portal that contains information relating to public tenders. According to the PPRA (2022) the e-procurement system is based upon public procurement laws particularly Part XI of the Government Notice no, 446 which provides regulations governing procedures for e-procurement.

The PPRA has piloted the new systems across 100 procuring entities across the country. However, the TANEPS only allows conventional access to public procurement data which implies that information can be viewed online but is not downloadable. According to the Institute of Public Accountability, (2018) a system tool that facilitates the exchange of procurement-related information between the PPRA and procuring entities called the Procurement Management Information System was established. The PPRA as the regulatory board for public procurement is responsible for managing the Procurement Management Information system. PMIS supports the system for checking and monitoring of procurement activities by enabling online submission of annual procurement Plans (APP), monthly reports, and Checklist forms. However, the information system is only for the use of the procuring entities and not for the general public or the economic operators participating in procurement (Institute of Public Accountability, 2018). The government made a regulation that by June 2020 has been marked as the deadline for all procuring entities to migrate to TANePS. According to Hivos (2020) despite the potential provided by e-procurement, Tanzania is yet to fully migrate all its procurement systems. The 2018/2019, PPRA annual performance evaluation report shows that only 71 procuring entities out of 540 procuring entities have started to use the platform, pointing out the continuation of the paper-based system.

4.2.9 Case study of Tunisia

According to the OECD (2020:5) the Tunisian e-procurement platform was developed in cooperation with the Korean International Co-operation Agency (KOICA) and builds on the Korean e-procurement system KONEPS, which has proven successful in digitalising procurement in South Korea. A financing agreement was signed between Korea and Tunisia (ibid, 2021) which ensured that sufficient funding was available for successful e-procurement adoption. Afterward, steering and technical committees were established to spearhead and monitor project progress. The system was implemented in phases, initially a pilot project was

implemented in 2011, this focused only on entities with large expenditures (World Bank, 2021:101).

In addition, the Tunisian government made efforts to reform the legal public procurement framework to introduce a comprehensive e-procurement system. The Tunisian law made e-procurement mandatory for all entities, including municipalities (OECD, 2020:6) This provision firmly established Tunisian leadership with respect to e-procurement. In 2018, following the positive results of the “pilot” phase, the Tunisian government promulgated a decree making the dematerialization of public procurement via TUNEPS mandatory. The progress made in the adoption of TUNEPS can be attributed to the central role played by the central procurement lead authority called The Tunisian High Authority for Public Procurement (HAICOP). The entity actively engaged with stakeholders to develop regulations and policies to implement modern e-procurement procedures. The authority also partnered with the European Bank for Reconstruction and Development (EBRD) in developing and updating regulations and policies to implement modern e-procurement procedures (Zgheib, 2016).

Moreover, a TUNEPS Unit was organised and among its functions was the setting up of the system training sessions for the users and information and awareness seminars. According to the OECD (2020:4) the target group for the training was both public buyers and suppliers from different levels of government to strengthen the uptake of the system. However, one significant obstacle to the e-procurement uptake pertains to structural challenges that Tunisia faces throughout its territory with respect to digital infrastructure (internet connection) as well as capacity (ibid, 2020:24). In addition to limitations related to the internet connection, newly created municipalities suffer from limited capacity in terms of personnel and ICT infrastructure, as well as budget resource owing to the barriers linked to political commitment and awareness. Regional imbalances exist in Tunisia, traditionally state budget resources have been concentrated in the coastal areas (OECD,2019). Therefore, entities in remote regions that are farther away from the economic centres of Tunisia, and may not have access to the same support structures as businesses in coastal regions.

4.3 BEST PRACTICES AND LESSONS LEARNT FOR E-PROCUREMENT IMPLEMENTATION FROM THE CASE STUDY EXPERIENCES

The case studies experience provides both lessons and best practices for effective e-procurement implementation. The case study review provides variations in terms of e-procurement implementation progress between developed and developing countries' different levels of e-procurement implementation. According to Bwalya (2018:28); World Bank (2018 b:33) developed countries and developing countries differ in terms of e-government adoption and implementation, thus the latter is always lagging. Despite these differences, Panda and Sahu (2012:9) citing Davila *et al.* (2002) underscore that the rate of adoption of the e-procurement system will rise as more aggressive adopters share their perceptions and experiences of low risk. Therefore, the successful experiences of local governments like Seoul and New York City Councils will serve as lessons for local governments who have failed to implement e-procurement systems.

The Seoul City Council's experience reveals the positive influence of the implementation context for e-government procurement projects. Kim (2017:6) attributes the success of e-procurement at Seoul City Council to the support rendered by the central government through the provision of funding. Additionally, for both decentralised and centralised e-procurement models reviewed, the central leading procurement agency of the government played a critical role in e-procurement implementation. For example, The PPS in Korea played a critical role in providing implementation e-procurement guidance; hence Kim (2010:3) asserts that the procurement regulator took a whole government approach in the implementation of e-government procurement systems. Similarly in Tunisia the HAICOP, drove training programs for e-procurement across the government agencies.

Another positive enabling factor from the case study reviews is the legislative framework to support e-procurement across the government. The OECD (2019:3) underscores that supportive laws and policies like the Electronic Transactions Act contributed positively towards the E-Seoul project. Similarly, the implementation of e-procurement systems at Kigali and Nottinghamshire City Councils was facilitated by a supportive adoption context in terms of high ICT infrastructure development and legislation. The United Nations (2019:23); World Bank (2021) commend Rwanda as one of the fastest-rising countries in Africa in terms of modernisation and

implementation of e-government overall. Henceforth, growth in e-government development provides a critical support system for the implementation of e-procurement systems. However, the same cannot be said for countries like Ghana, Tunisia, and Tanzania which are facing ICT infrastructure challenges. These case study experiences expose the implications of failure to acquire ICT systems to support e-procurement.

The New York City Council case study also points to two important lessons for local authorities which include the importance of collaboration and coordination of stakeholder engagement in the adoption of new ICT systems. It is crucial to engage in partnerships and form strategic alliances with key stakeholders in undertaking procurement reform. From the analysis of case studies, it can be noted that collaborative mechanisms are crucial, for instance in the case of Tunisia, government partnerships with ERBD spearheaded the review of e-procurement regulations, while in the case of Tanzania it culminated in funding support. The cities of Nottinghamshire and Vienna also collaborated with their respective stakeholders which included suppliers, such contributed to e-procurement project acceptance. However, it is important to note that both cities were able to sustain their partnerships and collaborations due to the presence of continued leadership support.

On the other hand, the Seoul, eThekwini, and Vienna City Councils' experiences bring a unique approach to the implementation of e-procurement systems which may be beneficial for local governments in developing countries. A phased or staged approach towards e-procurement implementation was adopted for both Seoul and Vienna City Councils. The adoption of e-government systems for developing countries as illustrated previously is erratic and problematic therefore, the adoption of a phased approach will enable organisations to address challenges as they arise (ADB, 2018:23). Instead of a single 'Big Bang', functionalities of a system are introduced in a particular sequence, starting with one module of the e-procurement system, once this becomes successful, other manual systems are gradually replaced over time (Schoernher, 2019:41). Although this may take slightly longer, it can often prove less disruptive to ongoing operations. In the case of Seoul City Council, implementation of the e-procurement system according to Kim (2019:4), and OECD

(2019:1) was gradual, starting from a pilot before being rolled out in phases and the phased implementation allowed for adjustments to be made where necessary.

The key takeaway for the government is the need to adopt a robust legislative framework for e-procurement systems. From the case study experiences no single country adopted and implemented e-procurement specific laws or regulations. Although Potter (2019:2) as cited by the OECD (2019) underscores that in most countries e-procurement is regulated by laws that regulate ICT, it is critical to have standalone laws and policies specific to e-procurement. In this regard, Athony (2018:47) contends that regulating e-procurement using legislation will go a long way in not only ensuring legal certainty but implementation effectiveness. Table 4.1 below presents the summary of common determinant factors that were adopted across the case studies reviewed in the study.

Table 4.1. Common determinant factors for e-procurement implementation drawn from case studies review

	Training	Legislation	Strong leadership	Central government support	ICTs	Collaboration
Kigali City	✓			✓	✓	✓
Seoul City		✓	✓	✓	✓	
New York City		✓				✓
EThekweni Metropolitan Municipality	✓	✓	✓	✓		
Vienna City		✓			✓	✓
Nottinghamshire City	✓		✓	✓		
Tanzania		✓				
Ghana	✓	✓				

Tunisia		✓				✓
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4.4 METHODS

This study is qualitative, Saunders *et al.* (2000:381) underscore that such an approach is used when the analysis is conducted through the use of conceptualisation since the data is based on meanings expressed through words. The study adopted a case study approach to focus on one entity because e-procurement is heavily reliant upon an organisation's needs which also determines the e-procurement specification. Several key informants included participants who are intimately involved in e-procurement procedures at the policy level (PRAZ and Ministry of ICT, Postal, and Courier services), HCC officials who play a critical role in the deployment of e-procurement system and execution of procurement at different organisational levels. For instance, for internal participants Supply Chain officials were included in the research sample so that there would be representatives of the e-procurement user community. Academic personnel and PRAZ officials were chosen for the study's unique perspectives with regards to the topic under study. In line with the above description of study participants, a purposive sampling technique was adopted for the study (with a total sample size of 30).

The data collection techniques that resonate with this research included document reviews and key informant interviews (Bowen, 2009:32). The key informant interviews were done to supplement existing literature on e-procurement implementation determinant factors in a decentralised e-procurement system which helped the researcher to identify issues from the participants' perspective. The research enables the researcher to gain different perspectives which were synthesised to come up with a nuanced position of determinant factors for e-procurement from a local perspective. It was important to synthesise the perspectives of the above-mentioned different stakeholders as they are critical in shaping thoughts on procurement modernisation. Lastly, the data was analysed through content and thematic means, which enabled the researcher to identify dominating themes across data which helped in coming up with a holistic understanding of key determinant factors for implementation, e-procurement

systems performance effectiveness, and e-procurement implications on service delivery.

4.5 FACTORS THAT INFLUENCE E-PROCUREMENT IMPLEMENTATION FOR LOCAL GOVERNMENT

Implementation of an e-procurement system is the most critical stage in the process of reforming public procurement. The study examines how e-procurement implementation can be executed effectively by analysing the key activities that can be considered in executing e-procurement reform in the context of local government. Such an examination will enable the researcher to draw determinant factors that will inform the researcher to formulate a framework design for e-procurement implementation for local government.

4.5.1 Change management

The respondents have varied knowledge and understanding of what change management entails in the context of local government with the introduction of e-procurement. However, central to their arguments was the role of council management to ensure that organisational members experience a smooth transition with the introduction of the e-procurement system. One interviewee from the HCC Supply Chain department emphasised the need for a project champion who plays a critical role in engaging e-procurement users to build a strong coalition. The respondent further indicated that the change leaders should build a change program 'with them' and not 'for them'. The Head of Departments (HODs) from HCC proposed that change management allows them as change leaders within an organisation to effectively incorporate new procedures whilst at the same time mitigating negative project outcomes. One of them reiterated that the e-procurement system brings disruptive change and implementation of such requires agile leadership who can smoothly manage such kind of a transition.

Academic personnel further added that "effective change management goes beyond project management and technological activities done in the execution of systemic changes, the most important part of an organisational shift is always to handle the people side of a transition". Another respondent drawn from academic personnel suggested that in most cases an e-procurement system entails a quantum jump in terms of technology, it is important that stakeholders of manual procurement

systems are appropriately facilitated to absorb the technology. Other respondents from the Ministry of ICT & Courier Services reiterated that the implementation of e-procurement within an organisation requires change leaders who are serious and have the determination to change. One respondent remarked that the advance of a new system within an organisation in most instances is explosive and immediate, it usually rocks the foundation of an organisation's system, and such a transition requires proper management. Moreso, another interviewee suggested e-procurement requires organisational leaders to have in place a proper change management plan which incorporates a clear communication strategy, risk management and resistance to change techniques”.

Equally related to the above perceptions is Ilhan and Rahim (2017:34)’s argument underscoring that just like any other technological change, e-public procurement brings change within an organisational setting and this requires managers to identify and adopt change management strategies making the transformation process a success. E-procurement brings a set of new rules and dynamics that create ways of doing business with the state in a different fashion, with a whole new and bigger set of participants, new incentives, and a radically different cost structure (Barahona *et al.* (2015:57). Hence the Islamic Development Bank (2019:7) asserts that the implementation of an e-procurement system should be part of a change management strategy that should be designed, developed, and implemented.

Against this backdrop of empirical findings, it can be drawn that an organisation implementing an e-procurement system needs to plan and prepare for change. The e-procurement system is a cross-cutting organisational system that will disrupt the usual routine of conducting purchasing; this process requires to be managed effectively. Most respondents’ views prioritise the human resource component in the process of change management in terms of ensuring that they are adequately set for the new organisational changes. In the transition phase it is important to infuse strategies that help in ensuring that organisational members and e-procurement system users are ready for the change initiative. The smooth change over to the new system and its acceptability by stakeholders to a greater extent would depend on how effectively this transition could have been managed.

4.5.2 Political will

Key informant interviews with PRAZ officials, HCC management and CHRA officials established that the implementation of an e-procurement system becomes a political decision that requires political support or backup to take off. The findings concur with Ahmad *et al.* (2021) who indicated the role of bureaucracy in institutional capacity building in facilitating e-procurement implementation. From the findings, there was a generalised perception that the political will from the central level is critical for e-procurement implementation in local government. For instance, in an interview, a key informant from PRAZ indicated that in most instances, public sector reforms become attainable if the central government is willing to initiate such initiatives by providing necessary support. The respondent further noted that e-procurement is usually driven by a central lead procurement agency, which has to be well-capacitated in terms of funding and human resources; this can only be achieved if the central government is willing to initiate such initiatives. An almost similar perspective was shared by an official from CHRA remarking that e-procurement requires policies, laws, and strategies that are usually spearheaded by the central government; therefore, it only takes the political will of those in leadership to ensure the realisation of such. Similarly, one interviewee from the Supply Chain Unit had this to say:

“The willingness of government decision-makers towards procurement reforms is critical as they provide support through the ascension of bills, the promulgation of policies, and policy pronouncements related to the e-procurement system. At the local government level, although we are independent and can make autonomous decisions, directives from central government through the Ministry of Local Government take higher precedence”.

Across literature there is a generalised understanding that political will influence the implementation of e-procurement in the public sector. Transparency International (2019:32) underscores that “reforms aimed at attaining good governance in public procurement are hard to sustain because interventions of political authorities and powerful economic interests play an important role in the success of such reform initiatives”. Moreso procurement governance reforms like e-procurement should not

be taken as universally applicable technical–administrative issues but be regarded instead as political reforms that have distributional implications (Patrucco *et al.*, 2019). In support Malvadis and Folinas (2022) underscored that “the significance of public procurement in the economy elevates it from the technical purchase of goods and services for the public sector to a political and economic struggle that could serve the purposes of resource allocation and transfer of capital on various scales”. It is important to analyse the effects of political incentives on the feasibility and sustainability of such reforms. In this regard the most appropriate way is through politics, with the intervention of different individuals, groups, and networks, for that, we need diffusion of innovation (Dearing & Cox, 2018).

From a slightly different perspective, from the above views the ADB (2018:11) underscores that political will is more critical especially for the case for a central, government-wide e-procurement system. At the national level the needs of powerful stakeholders need to be addressed, therefore a prerequisite political will and support from the highest political office is key. Drawing from the ADB (2018) ‘s findings, it can be established that the effect of politics will vary depending on the nature of an e-procurement system, whether it is a decentralised or centralised system. Drawing from the study findings, it can be drawn that political will is more critical in centralised e-procurement systems which in most cases are driven by a central procurement agency. In a decentralised e-procurement system, the capacity and willingness of a local government’s leadership are critical, these can be heads of critical departments like ICT, Supply Chain across the city council. Notwithstanding the importance of local government leadership, the political will still has some significance since laws, policies and regulations which influence the functionality of e-procurement systems in local government are formulated at the centre. This brings to the fore the influence distribution of power across the public sector which influence greatly on the implementation of e-procurement across different levels of government.

4.5.3 Strategic leadership

It was reported during interviews with key informants that e-procurement initiatives require strong leadership responsible for managing project procedures. The study established that leaders in e-procurement implementation play several roles which include committing resources, setting project milestones and managing the transition

period. In addition, the interviews established leaders across the different levels of the council have different roles they have to play with regards to e-procurement implementation. The interview findings concur with findings by Bromberg and Manoharan (2015) indicating that cities with both IT capacity and a council-manager form of government are more likely to be in an advanced stage of e-procurement development. More empirical evidence from literature on leading change, ICT innovations, and performance elaborates on the importance of leadership in the implementation of e-procurement. Hansen and Norup (2017:1) 's findings indicate that institutional leadership is the most important element of an e-procurement strategy. Brandon-Jones and Kauppi (2018) aptly affirm that proactive leadership through information and technical assistance, participative leadership through employee involvement, and locally adapted implementation processes are important leadership factors associated with performance. Hence, ICT innovation implementation processes constitute a context in which a paradoxical combination of directive and participative leadership styles tends to be the most productive approach to leading the process (Ofori & Fuiseni, 2020).

Academic personnel indicated that most public sector organisations are laggards while a few are becoming late adopters with regard to e-government tools, therefore it's critical to have leaders who are capable of pushing the e-procurement narrative. An official from the ICT Ministry indicated that technology users for a local government entity need a convincing narrative from leaders about the efficacy of e-procurement systems. Another official from the HCC ICT department added that in hierarchal system like the HCC, managers at each level play a critical role in mobilising initial support for the new system among their subordinates. HCC HODs believe that their role as managers goes beyond mobilising support, however striking a balance by preparing employees for the challenges to be likely faced in the implementation process. Hence, Masudin *et al.* (2021:3) assert that senior management must understand the critical success factors (CSFs) associated with ICT implementation for public-sector institutions to be successful in adopting e-procurement. Gunasekarana & Ngai (2007) has conducted empirical research on the adoption of e-procurement underscoring that senior management of the organisation must understand the benefits of e-procurement.

The above findings bring to the fore the influence of organisational structure on the implementation levels of e-procurement. Chen *et al.*, (2021) examined how procurement complexity and structure interacted to influence e-procurement adoption, with data collected from over 400 cities. They also found that a centralised structure would improve the chance of local governments adopting an e-procurement system to cope with the increasing procurement complexity. Contrastingly, Hashim *et al.* (2022:470) underscore that governments with a well-coordinated structure are less likely to use an e-procurement system. They can rely on the structure's intra-organisational collaboration and information sharing to handle complex procurements. In the case of local government drawn from findings, it can be established that the head of units and senior management (presenting a hierarchical structure) have a critical role in spearheading e-procurement.

4.5.4 Business Process Re-engineering

During interviews, it was established that business process re-engineering is a key procedure for e-procurement implementation. This response was common amongst ICT officials from the City of Harare and the Ministry of ICT and Courier Services who seemingly share a common understanding of ICT system issues. An ICT official from the City of Harare highlighted the importance of the re-engineering process by reiterating that whenever a new information technology system is being adopted, several processes are affected and there is a need to redesign them so that they can be in harmony with the new system. An official from the Ministry of ICT department remarked that BPR techniques can help identify where e-procurement systems can be integrated with their existing processes, ensuring a smooth transition.

The study findings resonate with Vaidya *et al.* (2006) indicating a high degree of re-engineering of the process is positively associated with the practices and processes implementation perspective of an e-procurement initiative. *Relatively* the importance of substantial business process re-engineering has been underlined in successful e-procurement implementations across the literature. According to Panda and Sahu (2012:17) the use of manual procedures in procurement systems often leads to unmanageable and inefficient system flow hence an organisation must undertake a fresh look at all procurement functions or processes. On the other hand, Brandon-Jones and Kauppi (2018) add that the inefficient and non-value adding processes

must be purged, while mandatory processes must be optimised for e-use. This is because of the fact that the power of e-procurement comes from reengineering the business processes that surround it not from the implementation of a software solution (Basheka *et al.* (2012: 729). Therefore, reengineering is an essential ingredient that ensures that business processes adopted within an organisation also align with the new e-procurement system.

4.6 CRITICAL FACTORS THAT INFLUENCE PERFORMANCE EFFECTIVENESS OF E-PROCUREMENT SYSTEMS

According to Aduwo *et al.* (2019:746) it has become necessary to understand the key variables that can promote sustained use of e-procurement after the initial adoption. Therefore, this research sought to go further and examine the factors that are likely to influence the performance of e-procurement systems. The researcher evaluates the empirical data and gives detailed descriptions based on the participants' perspectives on critical factors for e-procurement systems performance and sustenance.

4.6.1 User attitude

User attitude emerged as a recurring determinant for e-procurement performance and operational effectiveness among key informant interviews. This study established usability, accessibility and feasibility as key attributes that can influence users to effectively use e-procurement systems for public procurement. One HOD from the HCC had this to say:

“An e-procurement system can perform well if the end users are convinced that it will contribute positively towards the execution of routine organisational tasks, therefore their perceptions can positively or negatively affect system compliance levels.”

Similar sentiments were shared by another key informant selected from the Ministry of ICT and Courier Services who was of the view that for a new system or innovation to perform well, the prospective users including suppliers need to have a conviction that the new system allows them to have access to procurement related information, it has to have a guarantee that it is a better alternative for the manual system”. A key informant from the PRAZ added that "public procurement on its own is a complex process, therefore compliance and use of e-procurement systems by

internal users depends upon its usability". In an interview, one academic personnel introduced the innovative fit factor, a concept related to the previous interviewees' views. The academic personnel's views are presented in the following excerpt:

"The best way to address this question is to consider the concept of innovation fit as a determinant of e-procurement adoption by users and ultimately the performance of the system. Innovation fit is attained in a situation where target users perceive that the use of the innovation will foster the fulfillment of their values. Hence, where the innovation fits with organisational users' values and expectations an organisation can experience aggregate consistency in the use of an innovative practice by targeted organisational members".

The interviewees' views are apparent in the approach of Brandon-Jones and Kauppi (2018:76) who worked with the construct of user-perceived e-procurement quality. The authors found strong evidence of a positive connection between perceived e-procurement quality and system contract compliance. Croom and Brandon-Jones (2007:6) postulated that high levels of internal service had a significant effect on the likelihood of users to comply with the e-procurement system. Similarly, literature evidence by Ilhan and Rahim (2017:3); Vaidya *et al.* (2006:82) underscore that those end users of IT tools or innovation can influence the extent to which a tool becomes regularised for day-to-day tasks. In the same light, Brandon-Jones (2009) brought out that commitment of internal users towards systems and contracts as a prerequisite for the realisation of e-procurement system benefits. This is because the views of employees regarding e-procurement quality are rather important, and the literature suggests that they may be different (less positive) than the views of policymakers or regulators (Ahmad *et al.*, 2021).

Overall, these findings imply that the decision to use e-procurement is dictated by the perceived benefits of implementing e-procurement systems, therefore an organisation must consult on the expectations of potential users (mainly user departments and Supply Chain officials) before implementing an e-procurement system. This is because e-procurement technology itself does not guarantee operational effectiveness, however, the extent to which users are attracted to view the system as a preferred means of conducting procurement is of great significance.

Therefore, there is a need to investigate the dimensions of e-procurement that could enhance positive user experience (Hashim *et al.*, 2022:437). It provides public institutions and practitioners with empirical evidence on how beliefs and perceptions of implementing units about e-public procurement have some influence on attitudes towards usage and intention to use (Ofori & Fuseini, 2020). Hence is important for organisation to distill their needs in the system design stage of e-procurement implementation.

4.6.2 Organisational climate

Most interview responses point to the importance of shared organisational understanding that an innovation implementation is a major organisational priority promoted, supported, and rewarded by an organisation. One popular view amongst participants was that organisational members are likely to adopt an innovation if it is perceived to offer advantages over conventional or current systems. These findings align well with the broader theoretical disposition of the study which emphasises the significance of Diffusion of Innovation Theory in aiding an understanding of innovation adoption and implementation. Drawn from the responses is the influence of relative advantage as one of the relative attributes of innovation as eluded by Rogers (1992) from the DOI theory. Despite Rogers (2015:66) postulating the five attributes of an innovation (relative advantage, compatibility, complexity, trialability, and observability) that determine the adoption process, diffusion scholars have found a relative advantage to be one of the best predictors of an innovation's rate of adoption (Chuttur, 2009:38) as cited by Sahin (2006:18). Relatively, one official from the HCC Supply Chain had the perception that "despite procurement function being the preserve of the Supply Chain unit, this does not automatically shift the e-procurement system effectiveness responsibility to the same department. Other organisational users ought to have the same appreciation of the new system to attain operational effectiveness".

A similar view was shared by academic personnel indicating that e-procurement system effectiveness is not about how efficiently users embrace the technology however it is all about how the organisation supports the use of such a system. For instance, the ICT department can be responsible for maintaining the system, however, all these efforts can be only rendered if there is a commitment and

understanding that such a program is a priority to the organisation. Drawn from the interviews is an understanding among participants that procurement systems do not operate independently of other organisational systems and departments since the procurement function is a cross-cutting initiative. These findings imply that the effectiveness of a system is determined by the extent to which an organisations' entirety acknowledges that the new system is a viable option for conducting business.

4.6.3 System Integration

During interviews respondents from the Supply Chain management and ICT department agreed that an e-procurement system is required to interface with multiple other systems across the organisation. One interviewee had this to say 'let me use the case of our city council, as an organisation if it has to implement an e-procurement system, it needs to be integrated with other Enterprise Resources Systems modules like accounts payable, chart of accounts and asset registration". Another respondent had the perception that "in a traditional procurement system the buyers, demand management officials and logistics managers from the PMU to work closely with the finance department, with the introduction of e-procurement the systems need to be integrated such that each of the systems feeds each other with updated information". Another HCC Supply Chain official indicated that the integration enables the e-procurement system to pull data from these systems and automatically populate various fields during the procurement process.

On this same note, another key informant from PRAZ emphasises that integration enables the e-procurement system to communicate with other organisational systems which enable real-time access to information. The respondent had this to say:

"Integration is key for instance, in choosing and evaluating potential suppliers if PRAZ needs to verify the tax status of an organisation, it does not need to contact the supplier to bring documents, it can be easily verified online through the Registrar of Companies or Zimbabwe Revenue Authority. I do not need somebody to upload the tax clearance certificate because the data is already in the Company Registry."

These views augur well with findings from the documentary research done by the researcher. According to Panda and Sahu (2012:19) for an e-procurement system to be effective and ultimately successful, the system must be integrated with existing IT systems, especially financial systems. Relatively, the World Bank (2003) indicates that it is important to link the e-procurement system to the financial management system which then facilitates online payments to suppliers. However, this study varies from the literature findings which put more emphasis on internal integration of information systems rather than external integration. Key informant interviews established that e-procurement systems need to be integrated with multiple external systems for effective implementation to take place. This was revealed in an interview with an official from the Ministry of ICT and Courier Services. The respondent further suggested that:

"After the successful operationalisation of the e-procurement exercise, we will have an arrangement where we have an integrated enterprise infrastructure, where our systems can talk to the Central Registry department. For us at PRAZ when registering suppliers, we can make use of the National Data Centre".

In an interview one academic personnel had this to say on system interoperability from a different perspective:

"The exchange of information between an e-procurement system and the external systems during different phases of procurement should be seamless."

Drawing from the study findings above, a distinct variation from previous literature findings brought up by this study is the need for external integration as well as the integration with internal systems. Hence, Ilhan and Rahim (2020) underscore that it is common for buying organisations to fail to ensure external integration of the Supply Chain. The notion of not spending efforts for establishing an external integration is found to be in line with Corini (2000) and Min & Galle (2003), as they argued that without cooperation between buyers and sellers an external integration is unlikely to take place for e-procurement as cited by Basheka *et al.* (2012:7). The above findings imply that e-procurement systems do not operate as siloed systems.

The OECD (2021:4) underscores that procurement systems are not islands, hence they work relatively well with other organisational systems. Against this background empirical literature findings hold that emerging technologies have recently switched their emphasis from the purely technical component to creating interconnectedness between systems, people, processes, and businesses. Hence it is also of utmost importance for both vertical and horizontal integration of the e-procurement systems. (Panda & Sahu, 2012:9).

4.6.4 System compatibility and interoperability

The study established that an e-procurement system can only add value to an organisation's procurement function if it is compatible and interoperable with existing systems. This is in line with the view shared by Hashim *et al.* (2013:836) as cited by Rukuni *et al.* (2020) suggesting that the alignment of existing work processes and the e-procurement system determines the effectiveness of e-procurement implementation systems. In this view findings from HCC ICT officials rightly point that e-procurement systems are complimented with other organisational systems therefore; it is critical to acquire a systems which allows multi direction flow and exchange of procurement information. A PRAZ official stressed that "an e-procurement solution a local council chooses should work with what you are using now, something that is not compatible will be rejected and fail to work". Public procurement includes the handling of huge volumes of data files, and emails, therefore compatibility ensures that the data can be shared easily across organisational information systems. In any setup for data to be shared successfully between systems, and for users to have access to seamless systems with common interfaces, the various systems must be compatible (ADB, 2018).

A key informant from the HCC ICT department provided another unique perspective on the role of compatibility in e-procurement system effectiveness by suggesting that the hardware and software components of the new system need to be linked properly with the overall organisational structure. Further, an informant from the ICT and Courier Services Ministry reiterated that e-procurement does not have to be compatible only with other ICT systems, but with organisational policies and procurement regulations. The informant had this to say

” For instance, HCC an organisation can have a computer use policy, an e-procurement system software that a local government acquires needs to be compatible with current computer software. As such if the software is not compatible, an e-procurement system will likely fail to run, it only takes an update of organisation’s ICT policy for corrective actions to be done”.

One ICT official from the HCC indicated this:

“An implementing entity ought to have an e-procurement interoperability governance framework which includes a set of regulations, policies and standards that enable the exchange of data and transactions seamlessly internally and externally.”

Specifically, the above finding deviates from the previous studies which focus on the importance of organisational information systems being compatible and interoperable. The World Bank (2018b :5) provides for one characteristic of e-procurement that suggest that the system is dependent on the extent to which it is interoperable with other system. Further, studies by the OECD (2019:2) provide that e-procurement systems are increasingly connected to other management information systems. Moreso, World Bank (2018c) reiterates that systems must flow between multiple organisations and interested parties, like suppliers and payment gateways, and should interact with various systems and people. Hence drawing from both literature findings, it can be concluded that e-procurement systems need to be compatible and interoperable with everything that concerns an organisation including strategies, policies as well all other respective information technology systems.

4.6.5 Supplier adoption

The study reveals that supplier adoption is critical for e-procurement systems’ effectiveness, however one underlying determinant is the level of trust between the buying organisation and suppliers. In an interview, a key informant from PRAZ underscored that for an organisation to purchase online; their corresponding suppliers ought to have the capability to sell online too. Moreso, an HCC official from the Supply Chain department reiterated that a successful e-procurement system is required to have suppliers willing and able to trade electronically. This suggests that it is important for an organisation to have a critical mass of suppliers

accessible through an organisation's e-procurement system, this pushes the network effects of technology adoption within the supply chain.

Emerging from this study is the revelation that the supplier community is an important stakeholder, and the implementing organisation needs to ensure that suppliers are aware of the new systems so that they adopt and adapt. The findings align with Ofori *et al.* (2020:22)'s findings indicating that early supplier involvement has been described as an important element for the success of e-procurement implementation. However, one key informant from HCC Supply Chain indicated that e-procurement adoption by suppliers can only occur depending on the relationship they have with the local government or buying organisation. Another key informant from the Supply Chain unit cements the previous respondent's perspective indicating that e-procurement involves the sharing of confidential information and data between entities, thus the level of trust becomes a moderating factor for supplier adoption and continued use of the e-procurement system. Therefore, it can be established that supplier adoption rate influences the extent to which an organisation can leverage the capabilities of e-procurement system use. Any successful e-procurement system relies on suppliers who are willing and able to trade electronically (ADB, 2013:33).

4.6.6 Legislation

The findings from both interviews and the review of the literature point to the importance of legislation on the performance of e-procurement systems. Therefore, this theme seeks to reflect on what the interviewees perceive as the effect of laws and regulations on how e-procurement systems function in local government. A sizeable number of participants point to the fact that laws and regulations are critical, especially in conducting transactions as well as executing contracts online. For example, one participant from the HCC Supply Chain Department indicated that doing procurement online can only be effective if such transactions are legally binding. The respondent further stipulated that most suppliers are not used to doing business online, the norm has been face-to-face interactions, therefore without legislative frameworks that support the legality of issues like contract management, and real-time processing of transactions, it is difficult to rope in the former.

In addition, another respondent from PRAZ added that "legislation that does recognise electronic payments among others can help in reducing uncertainties and

legal risk, and this can encourage the adoption of e-procurement methods in public procurement and Supply Chain in general". Henceforth, in instances where there are no specific legal frameworks for e-procurement, it is important to review, harmonise and integrate pieces of legislation to promote e-procurement systems usage.

One participant from the HCC Supply Chain Unit had this to say; 'it is common to face a lot of hesitancy with conducting payments online, especially on the suppliers' side, trust issues can be a barrier due to the possibility of forgery or fraud". The respondent suggested that the action of e-commerce legislation or specific e-procurement legislation that regulates the usage of these systems can contribute to e-procurement acceptance among key council stakeholders.

Another participant under the same department provided an almost similar response presented in the excerpt below:

"When it comes to conducting business online there is a lot of suspicions and hesitancy on the authenticity of online signatures and settling transactions. Therefore, yes you can acquire your ERP to conduct purchasing, however, if suppliers do not have the conviction that it is safe and doable to conduct business online, such as a system will not contribute anything to procurement outcomes".

The official's perception serves to illustrate that laws and regulations for electronic commerce promote the safety of online transactions, which boosts confidence in using electronic means of conducting business. The HCC Supply Chain officials' perceptions rest well on findings of the World Bank (2018c:13) indicating that customers are more likely to engage in online trade if there are laws that exist to promote them for instance fraud mitigation, keeping customer data private, prevention of unauthorised transactions, financial data security. In countries like the United Kingdom, some laws set standards for conducting online business for instance the Payment Card Industry has a set of recommended security standards for businesses and financial institutions to follow (Transparency, 2014:2). Findings by the Transparency International (2014) are pertinent to this study in establishing the importance of laws and regulations for e-procurement operational effectiveness and performance in meeting procurement goals for local government.

4.7 IMPACT DIMENSIONS OF E-PROCUREMENT IMPLEMENTATION ON LOCAL GOVERNMENT SERVICE DELIVERY

At any setup, with the implementation of e-procurement, both customers and organisational users have some expectations regarding performance improvement in procurement as compared to the old manual procurement system. This theme sought to determine the service delivery implications of e-procurement and most responses support the idea that it improves customer satisfaction. According to Mapanga and Garidzirai (2021:2), the ability of the public sector to create both social and economic value for the citizenry is determined by how they execute their procurement function. Hence, Patrucco *et al.* (2020:1) citing Dimitri *et al.*, (2006) bring emphasis on the importance of procurement to the overall performance of public institutions. In that respect, the potential merit of e-procurement to boost service delivery seems largely undisputed from the literature review and fieldwork findings.

4.7.1 Efficiency maximisation in service delivery

Nawi *et al.* (2016) argue that the use of e-procurement can enable an organisation to become more efficient and effective in-service delivery to customers. E-procurement enables community members to become active participants rather than passive participants, they can easily monitor the procurement process from tendering process throughout to contract management. Undisputedly, effective employment of procurement methodologies and strategies remains the single most available practical pathway to managing the constant flux in product life cycles, prices and costs (Grandia & Meehan, 2017; Mapanga, & Garidzirai, 2021:2).

Different perspectives pointing to the efficiency gains of e-procurement toward service delivery were derived from the study. From the council's perspective, most department heads agreed that e-procurement promotes efficiency in service delivery. One of the key informants among the HODs underscored that e-procurement systems enable the council to provide services at low cost which ensures that the council imposes less tax burden on the citizenry. One Supply Chain official reiterated that e-procurement allows execution of the procurement function, 24 hours a day, seven days a week, and 365 days a year. The same perceptions were shared by an informant from PRAZ reiterating the adoption of e-procurement payments or

transactions that can proceed through HTML, EDI, email, and the internet which enable payments to be settled immediately which shortens the purchasing cycle.

Furthermore, another respondent from the HCC Supply Chain unit established that electronic procurement makes the creation of orders, payments, and requisitions quicker. An academic provided a different perception of efficiency implications on service delivery. The respondent underscored that manual procurement processes are complicated; therefore e-procurement implies the automation of some or all procurement functions which makes the process smoother and cost-effective.

A CHRA official indicated that e-procurement promotes efficiency in the sense that citizens can monitor and follow up on the tender process of government departments and this promotes transparency in the use of funds as well in the choice of a supplier who is awarded the tender. Further, the respondent reiterated e-procurement enables everyone to be a watchdog on how taxpayers' monies are used. The use of e-procurement enables supplier networking whereby different suppliers are integrated worldwide which makes it easy to identify potential suppliers in the market. Such networking increases visibility in the Supply Chain thus eliminating possibilities of biases and corruption in the procurement process (Transparency International, 2019). Therefore, the use of e-procurement can bring more efficiency in terms of convenience, simplification, timeliness, and security than using the traditional procurement system.

4.7.2 Quality service delivery

E-procurement is perceived to be a quality supply strategy and consistently becoming a strategic vantage point in global competition (Patrucco *et al.*, 2019). E-procurement processes like e-tendering enable a purchasing organisation to receive bids from a wide variety of suppliers which widens choices, ultimately a competent supplier can be chosen. Respondents equally argue on several quality dimensions brought out through the implementation of an electronic procurement system which includes improved responsiveness, assurance, reliability, and certainty.

One merit of e-procurement in spearheading quality service delivery was drawn from one respondent from CHRA who indicated that using online tools for executing

procurement enables local governments to conduct thorough supplier evaluations. This will enable the selection of competent suppliers in line with the chosen supplier criterion. Additionally, this entails that in in-service delivery, customers expect high-quality services at the right time with a high degree of care and fairness in solving their requirements or problems. However, one Supply Chain official from the HCC indicated that the quality service delivery attributes of implementing e-procurement may be difficult to attain due to the existence of Zimbabwean government policies like the Buy Local campaign. The respondent indicated the following:

“Procurement is a highly politicised function, for instance, the Buy Local Campaign obliges the government to procure locally available products as part of indigenisation policy, hence in such a case an entity is limited to fulfil its procurement needs from only local suppliers”.

One academic official in an interview however indicated “that quality is a relative subject, with the multiplicity of local government stakeholder makes it difficult for local council to fulfil various expectations. Despite this the informant further underscored that in examining the quality implications of e-procurement on service delivery it is important to explore several dimensions these were tangibility, responsiveness, reliability, assurance, and empathy. Similarly, one HCC Supply Chain official indicated that “electronic procurement enables customer needs and problems to be attended to with close attention and assistance. This is because electronic systems allow us buyers to acquire products and services within a short period which provides opportunities for responsive service delivery”.

Another perspective on improved responsiveness as a quality dimension was indicated by one HCC service department head’s response. The interviewee indicated that e-procurement enables an organisation to act promptly to residents' needs and appropriate action is taken at the right time by fast-tracking the procurement process. On the same note another HOD had this to say in responding to the effect of electronic procurement on service delivery.

“For us at local government having an efficient means of procurement creates certainty to our customers with services being delivered in time and without causing inconveniences”.

Therefore, drawing from the research findings it can be established that e-procurement improves the quality-of-service delivery by promoting assurance amongst residents. In addition, e-procurement bridges the gaps in traditional supply chains, and procurement platforms enhance stronger connections between organisations and alternative suppliers by using the latest in procurement technology.

4.7.3 Value for money in service delivery

Documentary research evidence provides that e-procurement improves value for money since procurement is characterised by several activities to ensure that maximum value for money is attained by an organisation. The use of e-procurement can improve efficiency and effectiveness in the procurement process in several ways such as improved control of vendor relationships, increased accuracy, better negotiations with suppliers, reduced transaction cost, and increased speed in service delivery Brandon Jones & Kauppi (2018) Additionally, Grandia and Meehan (2017) purport that predictions point to the notion that e-procurement, if implemented in public sector organisations, can deter the typical ills associated with traditional value chain management in the public sector, such as expenditure inefficiencies and fiscal erosions. As a result, the e-procurement system enables governmental purchasers to reduce administrative costs, shorten the order fulfilment cycle time, and reach a more speedy, transparent, efficient, and cost-effective procurement process (Chen *et al.*, 2021:2).

One official from the CHRA was of the view that the adoption of e-procurement promotes the realisation of value for money especially to taxpayers. You enjoy services you pay for, for instance, an organisation can create value for the customers by providing reliable services and demonstrating a high level of responsiveness that guarantees timely services to customers. Academic personnel remarked that the value of e-procurement can be summarized with five rights: getting the right quality, in the right quantity, at the right time, for the right price, from the right source. From the residents' perspective attaining value for money implies getting goods and services that meet their expectations.

4.8 CHAPTER SUMMARY

This chapter managed to provide a presentation and discussion of the determinant factors for the implementation of a decentralised e-procurement system. The review of case study experiences exposed different initiatives undertaken to support the implementation of e-procurement, which well resonated with the literature review findings. The study generated various considerations for e-procurement which include political will, central government, leadership support, legislative and policy framework among others. The findings point to the idea that factors that influence e-government adoption in the public sector also influence e-procurement implementation. There is no contestation to this since e-procurement has been widely hailed in literature as a form or part of e-government reforms. However, the study established how the unique organisational characteristics (structure, goals, and needs) specific to the HCC interact with key determinant factors to influence the operationalisation of e-procurement.

By this, study, local governments with decentralised e-procurement systems are provided with the focus metrics in terms of activities and priorities that should be achieved for the successful institutionalisation of the e-procurement system. It is also valuable in identifying the specific factors that need to be considered to achieve sustained use of e-procurement technology in local government. (Aduwo *et al.*, 2020:747). Therefore, the findings inform the generation of a framework to guide e-procurement implementation which is a narrative representation of the key factors, or variables to explain the phenomenon of implementation (Farley, 2013:12). Overall, from a broader perspective the significance of the study findings is that they illustrate how public sector organisations can internalise e-procurement systems, firstly and secondly how sustenance of e-procurement can be attained to promote effective service delivery.

CHAPTER FIVE: CHALLENGES TOWARDS THE IMPLEMENTATION OF AN ELECTRONIC PROCUREMENT SYSTEM AT HARARE CITY COUNCIL

5.1 INTRODUCTION

The previous chapter determined the factors that influence the design, development, and implementation of e-procurement systems in local government towards effecting efficient service delivery. Hence, the Islamic Development Bank (2019:12) underscores that an e-procurement system is not a magic solution and is only as effective as its design, implementation, and usage quality. Thus, after examining determinant factors for e-procurement system implementation, this chapter investigates the challenges the Harare City Council faces in transitioning towards an e-procurement system. Prior studies demonstrate that technical change in public organisations remains a developing and incomplete agenda as the implementation process can be incremental and challenging (Moon 2005; Ahmed, 2019:747; Chen *et al.*, 2021:16). Given that public e-procurement implementation is still problematic implies that implementation challenges of public e-procurement have not been well understood to date (Muhungo *et al.*, 2020:47).

Most studies for instance by the United Nations (2018:3) Mustaf *et al.* (2020:60) agree that e-procurement implementation has not been successful, in both developing and developed countries. However, while this evidence is not contested literature evidence has established that the severity of these challenges varies between developing and developed countries (Afolabi *et al.*, 2017; Nawi *et al.*, 2016; OECD, 2019). There is an increasing literature underscoring that the most contributing factor derailing e-procurement progress is the poorer context which makes developing countries confront more challenges than developed countries (Choi *et al.*, 2016; Boladale & Olaskunkanmi, 2022). Perhaps this could be partly because the phenomenon has not received sufficient attention in Africa, and as a consequence, adoption is enacted in a manner that is exclusive of contextual challenges the organisations face (Kabanda *et al.*, 2019:315). Therefore, this study investigates challenges being faced towards e-procurement using the case study of Harare City Council which emphasises the contextual realities that emerge at the local government level.

Literature on e-government and e-procurement implementation in the public sector is wide (Adebayo, 2015; Pitso *et al.*, 2018; Ahmed *et al.*, 2018) however, it is more focused on examining national-wide e-procurement or e-government project experiences (Ibem & Laryea, 2015; Aduwo *et al.*, 2020; Owusu *et al.*, 2020). This is because the e-procurement system is not a widely used concept especially in the public sector due to slow growth and development (Shakya, 2017; ADB, 2013). Local government e-procurement especially in the developing country context has not received sufficient attention in literature despite being the most critical level that suffers from severe procurement-related inefficiencies (Ilhan & Rahim, 2013:4). Previous literature has made attempts to examine e-procurement implementation and associated challenges in councils within the developed country context. For instance, Croom and Brandon Jones (2009) examined e-procurement implementation issues in the United Kingdom public sector, while Bromberg and Manoharan (2012) explored the efficacy of the e-government growth stage model in UK local authorities. Relatively, Ilhan and Rahim (2020) also focused their study on e-procurement across Australian municipalities. Therefore, there have been little or no empirical studies that occurred in the developing local government context, which indicates a clear knowledge gap and justifies the need for further research.

Notwithstanding a wide array of literature on e-procurement implementation challenges, the focus has been on specific industries that have seen notable growth in the application of e-procurement, thus most studies in the developing country context have not explored local government as a research context. E-procurement studies have focused on public procurement in the construction sector especially in the development country context. Studies by Ibem *et al.* (2016), Aduwo *et al.* (2016), focus on e-procurement challenges across the project management domain especially in public construction, Nawi *et al.* (2016) focus on shipment companies, Afolabi *et al.* (2017) examined the development of a web-based tendering for the education sector. According to Masudin *et al.* (2021) while these studies are informative to understand e-procurement implementation challenges, they pay no attention to the local government context. Therefore, this chapter examines the critical challenges for e-government implementation, based on an analytical framework developed from the literature related to e-government and e-procurement implementation. The current study examines local government as the unit of

analysis to disentangle contextual challenges and understand their implication on e-procurement implementation from a local perspective.

This chapter provides a background on the nature of procurement challenges the public sector is grappling with. The chapter further examines the growth of e-procurement in the public sector context, to assess how traditional procurement systems have evolved. The previous section is preceded by a global analysis of e-procurement implementation challenges which helps in determining if developing countries' experiences are similar to developed countries. The last section of this chapter is a presentation and discussion of findings in addressing the following research question; what challenges are being faced towards e-procurement implementation at HCC? This will inform the generation of courses of action that government bodies or local councils in similar contexts may implement to lead e-procurement systems.

5.2 EXAMINING CHALLENGES ACROSS PUBLIC SECTOR PROCUREMENT

E-procurement has been purported to be a critical enabler for efficient public procurement procedures. Therefore, this section examines the nature and extent of procurement challenges faced across the public sector to determine the relevance of e-procurement in addressing these challenges. It is important to examine the peculiar nature of public procurement challenges in the developing country's context which contributes to a more nuanced understanding of the role of context. Public procurement is perceived as a critical indicator of the effectiveness of a government (Fourie & Malan, 2020:1) yet it is one of the most heavily congested areas of governance often marred with a lot of inconsistencies and malice that influences negatively on service delivery (Basheka, 2021: 118). Muhungo *et al.* (2020) assert that these challenges need to be addressed since public procurement has become critical within the contemporary business environment.

Ambe and Badenhorst- Weiss (2012:4); Dorasamy (2021:30), underscore that what makes public procurement ineffective is the non-adherence to the requisite laws and procedures that govern how goods and services are supposed to be acquired. On the same issue, Basheka (2017); Fourie (2017) contend that in most instances public procurement laws and regulations have several loopholes, that allow procurement professionals to diverge from procurement guidelines, in most instances they go

unnoticed. Fourie and Malan (2021) in their study examining public procurement challenges in South Africa established that what makes non-compliance to procedures rife is the perception that there are no or very few consequences for disregarding the regulations. There are insufficient monitoring measures on procurement procedures to ensure that practitioners comply with the procurement regulatory framework and policy (Doramsay, 2021:24). As such this has resulted in a decline in the ethical conduct of public procurement professionals, negatively affecting the proper execution of the procurement function.

Mazibuko and Fourie (2017) view unethical conduct of procurement officials in the same light as acts of corruption, fraud, nepotism, and bribery, all of which have an adverse bearing on the service delivery quality levels. Manual methods of public procurement face the challenge of lack of transparency, hence, Munzhedzi (2016) suggests that this lack of impartiality provides opportunities to cover up the unethical conduct of procurement professionals. As a result of administrative secrecy, government entities experience high levels of nepotism in the award of tenders to suppliers in most instances the awardees will not have the competence and capability to provide the goods and services required. Shakya (2017:6), suggests that in traditional procurement environments, officials are usually given the power to sanction contracts, without a system of accountability in place. Hence, Doramsay (2021:24) asserts that public procurement has remained largely as a network of political patronage and nepotism rather than a tool for implementing public policy. However, Dzuke and Naude (2017:23) assert that while corruption is a deterrent risk to effective procurement, lack of professionalism within the public sector procurement discourse has worse ramifications.

Public sector practices equally related to unprofessionalism in the conduct of procurement are wide-ranging. Patrucco *et al.* (2019 :3) assert that public procurement in most developing countries is considered a downstream clerical function largely implemented by non-professional and lower-level staff of the organisations concerned and not a strategically important task. Additionally, Fourie and Malan (2020:13) underscore that challenges of poorly designed organisational structures and unqualified procurement officials weaken the capacity and capability of procurement. Meyer and Luiz (2018) assert that in some government departments

what makes procurement activity produce undesirable outcomes is the skills gaps among leadership. It is reported that public procurement skill sets measure way below the average skills of their counterparts in private sector procurement, warranting some reforms in public sector procurement (Thai, 2017). Thus, Kramer (2016) suggests that public procurement is fraught with system weaknesses that can only be rectified with a proper reform that would incorporate the use of ICT platforms. The traditional method of procurement is work intensive and prone to errors which are very expensive both in the long run and short run (Nawi *et al.*, 2016; Shakya, 2017:4).

5.3 INVESTIGATING THE DEVELOPMENT OF E-PROCUREMENT IN THE PUBLIC SECTOR

In tracing the development of e-procurement since its inception, it can be ascertained that the growth of ICTs and the internet has significantly facilitated how it has evolved (Gunsekaran & Ngai, 2004; Choi *et al.*, 2016). E-procurement has significantly revolutionised the operational schema of traditional procurement (Chan & Owusu, 2022:19). The systems and platforms for e-procurement works have evolved massively in the past decades. Schoenherr (2019:33); Chan and Owusu (2022:3) underscore that the origins of e-procurement can be traced to the early 1960s to 70s and during this period Electronic Data Interchange (EDI) followed by Electronic Resource Planning (ERP) emerged as early forms of e-procurement. EDI is defined as an electronic transfer of business data from computer to computer using mutually agreed standards. Rivela (2023:2) underscores that EDI enabled the exchange of business documents, for instance, purchase orders and invoices between trading partners using standardised formats. EDIs and ERPS also enabled organisations to exchange large volumes of information as well as important documents like order forms and receipts (Schoenherr, 2019:34). These early e-procurement initiatives paved the way for the automation of procurement processes reducing paper-based transactions. E-procurement was not only developed out of necessity but also due to its ability to enable an organisation to obtain a competitive advantage.

The early 1990s witnessed the advent of the internet which brought significant advances to e-procurement (Chan & Owusu, 2022). According to Rivela (2023), web-based procurement systems began to emerge and these systems enabled

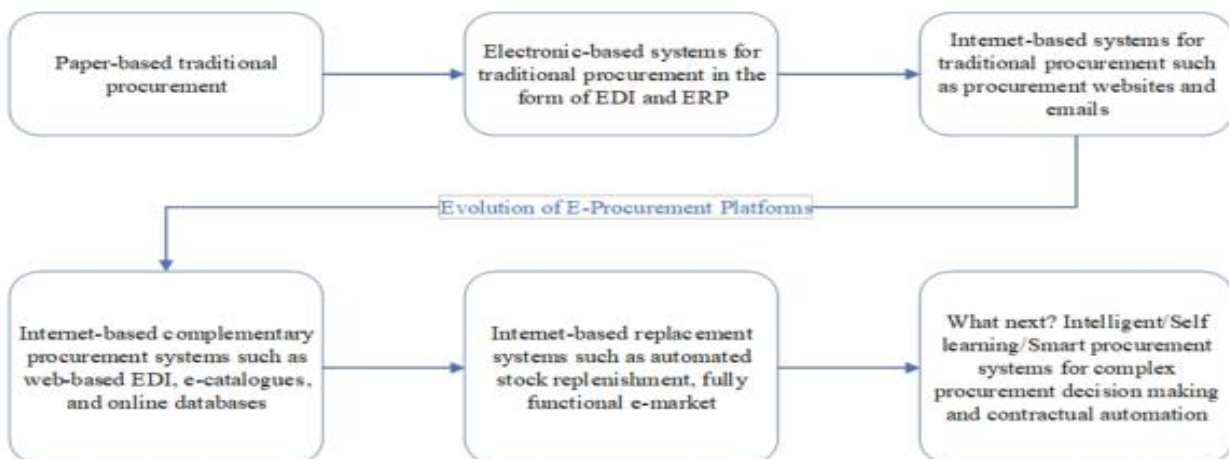
collaborative procurement processes. This is supported by the United Nations (2006:148) indicating that with the emergency regarding ICT in the 1990s, e-procurement continued to evolve massively and grow exponentially. This led to the evolution of internet-based commerce with virtual organisations sourcing products and services. The internet radically transformed how purchasing was conducted, leaning heavily towards online buying across the international market (McKinsey & Company, 2016). This has seen e-procurement embracing the use of online auctions, and online bidding among other e-commerce tools. MacManus (2002) adds that the globalisation of markets had implications on how procurement is conducted which pushed it online. Hence, Cox (2022:229) established that the public sector ought to contend with the almost silent but overwhelming forces of globalisation which force businesses to adopt technological tools which enable them to access international markets. Therefore, the internet offered several opportunities for purchasing activities for instance a reduction of processing times and better access to new knowledge for an extensive supplier base.

Rivela (2023) asserts that between early 2000 and mid-2002, the integration of ERP among business functions enabled seamless data flow. Additionally, e-markets emerged in early 2000 and they acted as online platforms connecting buyers and suppliers offering a wide range of products. These systems provide comprehensive solutions to end-to-end procurement automation. Since the late 2000s, there has been significant growth in digital tools and currently, the public sector is within a digital era that continues to drive significant changes in the procurement landscape in contemporary organisations. According to Cox (2022), the current digital procurement systems enable the automation of repeatable Purchase-to-Pay (P2P) processes, supporting strategic procurement activities like supplier selection. Moreso, the digital era has brought new tools that increase the value of procurement for instance Artificial Intelligence (AI) and Blockchain technologies. These tools have the capability to change not only how the procurement department works, but also the value it generates for the larger organisation.

In recent times the emergence of the World Wide Web and ICTs has paved the way for e-procurement growth as well as the modernisation of the traditional procurement function (Koldosheva, 2021). Figure 5.1 below shows a graphical summary of the

progressive growth of e-procurement since its inception as a procurement tool. Chan and Owusu (2022:14) contend that other than all the highlighted benefits of EP, it is believed that the most groundbreaking benefits of EP are still ahead, digital tools continue to get sophisticated and able to execute imaginably impossible tasks a few years ago. A good example is the emergence of smart contracts. Rivela (2023) indicates that it is now relatively easier to develop an all-in-one online procurement platform that can automate almost all the related activities captured under the procurement process. The same platform can execute procurement related legal contracts automatically without the need for any manual input or third-party assistance. According to Chan and Owusu (2022:4), it is evident from Figure 5.1 that the longitudinal transition of manual execution of procurement-related activities to more digitalized formats has also stimulated the development of even more sophisticated procurement-related tools to facilitate the digital transformation of firms and statutory institutions across the world.

Figure 5.1: Evolution of E-procurement



Source: Chan and Owusu (2022:3) Evolution of E-procurement (adapted from The United Nations Global Marketplace (UNAM) (2012)

According to Cox (2022:181), the next generation of digital procurement systems will be boosted by the capture of reliable data in real-time, enhanced Data Analytics,

Cognitive Analytics driven by advanced machine learning algorithms, and developments such as Artificial Intelligence (AI). Going further systems like AI are poised to play a significant role in e-procurement for instance AI-powered chatbots can be used to interact with customers or suppliers online. These systems can be integrated into e-procurement systems by bringing new opportunities for automated data analysis and supplier collaboration. Blockchain technologies are another contemporary feature of e-procurement, which create a decentralised record of all transactions within the supply chain network (Rivela, 2023). In this current age of digitalisation, e-procurement is a more preferred method of conducting public procurement than manual systems (McKinsey & Company, 2016), it continues to evolve by leveraging technology to optimise the procurement process (Rivela, 2023).

5.4 E-PROCUREMENT IMPLEMENTATION CHALLENGES

Aduwo *et al.* (2016:34), citing Eadie *et al.* (2010) assert that the challenges represent those factors or circumstances that prevent the implementation of an e-procurement system. Farzin and Nezhad (2010:449) also noted that barriers refer to the factors that inhibit e-procurement use and produce negative results. Corroborating these definitions, Nawi *et al.* (2016:211) described barriers or inhibitors as obstacles that must be mitigated if a successful implementation of e-procurement must be achieved. Across innovation literature, barriers or challenges are grouped into two, firstly 'revealed barriers' that slow the innovation activities of organisations during the ongoing innovation process; and secondly, 'detering barriers', which prevent the process itself from being initiated (Cinar *et al.*, 2019: 328). Therefore, in the context of this study, the barriers to the uptake of e-procurement refer to constraints, inhibitors, and problems being faced towards the initial adoption and continuous utilisation of e-procurement systems in local government. Further, it also implies factors deterring the realisation of benefits associated with the implementation of e-procurement systems.

5.4.1 Challenges of e-procurement implementation: A global perspective

The current literature holds the view that e-procurement has attracted the attention of both researchers and practitioners and yet few organisations have implemented it successfully (Boafo & Ahudey, 2020). Investigating e-procurement challenges from a global perspective is an attempt to provide comparable data between developing and

developed countries' experiences. Masudin *et al.* (2021:11); Neupane *et al.* (2012) postulate that despite e-procurement emerging as a tool for reforming public procurement, its adoption remains a significant challenge. Its implementation in the public sector has failed to yield similar results in the private sector. Consistent with the government environment, it is stressed that most public institutions in developing countries are still grappling with the proper introduction of e-procurement (Muhungo *et al.* 2020:47). Boladale and Olaskunkanmi (2022:17) assert that generally, African countries have had challenges in implementing e-government with many projects being partial or total failures. Hence, e-procurement has not been widely used in Africa in general (Anthony, 2018:2). Muhungo *et al.* (2020) assert that there have been previous attempts to investigate e-procurement challenges, however most studies examine such focusing on specific factors that they deem to have more influence on implementation.

Mawela *et al.* (2017:2) contend that there is a large failure ratio in developing countries due to the digital divide. Furthermore, the Open Contracting Partnership (2022:4) affirms that over the last few years, many governments have faced challenges in procuring, building, and institutionalising e-government procurement systems. Such challenges affect the adoption, effectiveness, and sustainability of the e-procurement system (ibid, 2020:4). Developing countries have had a history of e-government failure, Mates *et al.* (2013) reported that between 60% and 80% of e-government projects that are implemented fail to reach their goals. As cited by Malodia *et al.* (2021:2), Furuholt and Wahid (2008) found that more than 60% of e-government projects in developing countries failed to meet the desired outcomes. Furthermore, of the failed projects, 35% failed while 50% failed partially in meeting the expected outcomes (Mawela *et al.*, 2017:151). In making reference, to e-procurement implementation that range is significant considering only nine Sub-Saharan African countries have so far implemented an end-to-end e-GP system as established by the Open Contracting Partnership (2022:6). More literature findings report that e-procurement is still in its infancy and the full benefits are yet to be realized, hence Adjei-Bamfo and Maloreh-Nyamekye (2019) assert that basically, e-government projects have seen more failures than successes.

Dlakuşeni *et al.* (2018: 234) add that the development and implementation of e-procurement has not been as easy as some of the solution providers have suggested, nor has it necessarily brought the anticipated savings. Therefore, e-procurement initiatives suffer from operational ineffectiveness, which entails that not much significant benefits are gained from the implementation process. Mohammed *et al.* (2016) establish that previous findings on e-procurement experiences suggest a low level of functionality of such projects. For example, in Malaysia, the value of e-procurement is seen to be limited to improvements in operational and tactical areas with little to no value gained towards improvements in market access and customer or supplier relationships (Hashim *et al.*, 2013). Moreover, Hardy and Williams (2008:133) in their study evaluating e-procurement implementation barriers in Australian firms established that most respondents who had implemented e-procurement had not reported major or significant benefits. Moderate benefits were realised concerning improved supply chain integration, reduced employee overhead, and improved supplier sourcing (*ibid*, 2008). Therefore, it can be drawn that most e-procurement efforts fail to meet original expectations as they encounter several challenges.

So far, there is a lack of an integrated approach to the synthesis of e-procurement implementation challenges; and when there is an attempt to do so, it is carried out in a rather fragmented manner (Muhungo *et al.*, 2020). According to Rahim (2008) in fact, in the implementation of the e-government and e-procurement initiatives, many issues and challenges to both initiatives are interrelated. This study examines how e-procurement challenges manifest between developed and developing countries. The following presentation condenses the diverse e-procurement implementation challenges into themes (technological, organisational, and environmental themes) to present an integrated approach.

5.4.1.1 Organisational challenges toward e-procurement implementation for public sector procurement

5.4.1.1.1 Lack of ICT skilled workforce

E-procurement systems require personnel within an organisation to have the IT skills to implement, maintain, and continuously update the system. Thus, Dlakuşeni *et al.* (2018:343) underscore that the conspicuous lack of such personnel has contributed

to delays in e-procurement adoption in most public institutions. Tran *et al.* (2021) identified the most significant impediments to e-tendering adoption as people-related, such as a lack of awareness, a shortage of competent workers, and poor cross-disciplinary communication. Owusu (2014) asserts that poor end-user uptake and training have severe consequences for successful e-procurement implementation. Relatively, Addo (2019:49) in a study investigating e-procurement implementation in the public sector in Ghana established that lack of user competency is one of the major challenges. Similar findings were revealed by Gasco *et al.* (2018) in their study on determinants and barriers of e-procurement comparing public sector experiences in Europe and the study established that the internal users lacked competency to execute procurement using new online systems. Kazaz and Inusah (2022:75) investigated barriers to e-procurement implementation across Africa, and North America between the years 2010 and 2022 and established that the lack of IT-skilled people includes for example older generations who are less acquainted with IT systems and heavily rely on traditional working techniques. Pitso *et al.* (2018:322) specifically in the Lesotho context where ICT consultants are perceived to be lacking in ICT knowledge, established that the perceived ICT skills gaps have jeopardised the successful completion of the e-procurement project.

5.4.1.1.2 Poor implementation management

Pitso *et al.* (2018:322) indicated that the lack of project management skills is a problem, especially in a context that lacks “a business case” which is crucial to lay the foundation of clear objectives and how these are aligned with the business strategy. Shakya (2017) is of the view that poor implementation is a result of improper project governance. Governance is perceived to be a precondition to closing a project within an allocated time and budget. Project quality, cost time, and overrun problems have become a common phenomenon for public e-procurement projects (Kazaz & Inusah, 2022:16). Poor project governance in e-procurement implementation also manifests as the failure of project managers to forecast future costs and risks which results in poor project outcomes. Pitso *et al.* (2018:223) in their study established that e-procurement implementation failure emanated because management lacked project management skills and the project eventually suffered scope creep problems. Brandon-Jones and Kauppi (2018) underscore that such

scenarios are prevalent in many institutions from the inception of a project where managers fail to transform properly the adoption of e-procurement decisions taken at the strategic level down to the individual employees' level for acceptance.

5.4.1.1.3 Resistance to change

Furthermore, another challenge faced in e-procurement implementation within the public sector context is resistance to change (Davila *et al.*, 2007; Addo *et al.*, 2019; Aduwo *et al.*, 2019). Addo (2019:15) describes resistance as one of the conventional attitudes usually seen among the senior procurement officers who are resolute in their old traditional ways, and thus, unwilling to accept the new ways of doing things from the e-procurement experiences in Ghana. Similarly, Aduwo *et al.* (2020) examined the anti-corruption capabilities of e-procurement within the Nigerian public sector construction and findings indicate that e-procurement was perceived as a major stumbling block to the manual processing that they have grown so accustomed to within entities. Hence, the Pricewaterhouse Coopers (PwC) (2022) indicates that in circumstances where there is a lack of visible short-term gains by practitioners, the digitalisation of the strategic supply management process becomes cumbersome. A study undertaken by Pitso *et al.* (2018) exploring e-procurement adoption in Lesotho supports the above findings underscoring that the management experienced resistance from some departments, especially engineering who said that the system belongs to "Finance". The study established a consistent lack of ownership of the system and respondents attributed this to the fact that "people were not adaptive to change, they were not well trained and most were not told what the system was to do and how it will affect them directly with regards to their daily work activities (ibid: 2018:44).

5.4.1.2 Technological challenges towards e-procurement implementation for public sector procurement

Technological barriers include the lack of a technical brain to maintain and run the e-procurement system in the organisation as well as the pre-requisite technical infrastructure and standards needed to run the system. These will be discussed below in detail per literature survey findings from a global perspective.

5.4.1.2.1 Lack of standardisations

The lack of implementation standards or benchmarks for e-procurement is contributing to the failure of such projects especially for new organisations (Hashim *et al.*, 2013:23; Chan & Owusu, 2022:14; Cinar *et al.*, 2019). Previous studies and journal articles on procurement professionals, e-procurement literature, and e-procurement evaluation reports have concluded that a government e-procurement model has yet to be developed to guide a homogenous process (Brandon-Jones & Carey, 2011; Bromberg & Manoharan, 2015; McCue & Roman, 2012; Vaidya *et al.*, 2006). Studies by Eadie *et al.* (2010:34) attest to this underscoring that the lack of a widely accepted solution has been a challenge to e-procurement adoption in the United Kingdom construction industry. In this study, the author established that in the absence of standards across ICTs, planning for future uses and acquisitions would prove nearly impossible. This phenomenon thus contributes to the views that governments (or public procurement in general) often purchase the expensive rather than the right systems. Furthermore, in acknowledgment of and corroboration with extant literature on the issue of lack of standardisation Nawi *et al.* (2016:131) underscore that e-procurement systems are a relatively recent development in the business application area which presents a challenge because of the lack of a generally accepted model.

Despite the lack of reference models for e-procurement, successful e-procurement systems implementation experiences in countries like Korea have made other countries use this as a reference model for their implementation. The World Bank (2021:23) attests that the Korean Electronic Procurement System (KONEPS) can be used as a reference point for governments who are willing to implement the system. Therefore, government organisations are encouraged to consider certain best practices as these are considered prerequisites to successful e-procurement implementation (World Bank, 2018). Countries like Rwanda, and Tunisia have adopted the KONEPS model for modernisation of public procurement. However, the same issue of having referencing models has been castigated by authors who argue along the lens of design and reality gap as a challenge towards e-procurement implementation.

In line with the above, Muhungo *et al.* (2020); Mawela *et al.* (2017:3) remark that generally, developing countries often adopt ICTs and software that are designed in

the developed world and introduced to them through technology transfer programs. In this regard Joshi & Islam (2018) argued that if it was possible to build developing country context-specific models for e-government, however these countries lag in the utilisation of ICTs, as a result, there are no novel cases of reference that can be used to make a business case for e-government implementation given the contextual nuances of the developing countries. Therefore, Hashim *et al.* (2013:23) bemoan a lack of authoritative cases for e-government development from the developing country contexts. Basheka (2021:123) underscores that much discourse on e-government has been guided by case studies from developed countries and conceptualisations guided by global north, Eurocentric, and Asian thinking models. Resultantly, e-government initiatives have suffered from the 'one-size fits all' syndrome, which inhibits the attainment of intended goals. It can be drawn that the lack of a referencing model is more relevant among developing countries more than developed countries.

5.4.1.2.2 Privacy and security

The inadequacy of security mechanisms surrounding e-procurement presents major hindrances to e-procurement adoption (Eadie *et al.*, 2010; Choi *et al.*, 2016; Chan & Owusu, 2017). Chan and Owusu (2022:14) underscored that the limited or lack of confidence surrounding the security and legal stipulations of e-procurement is a challenge. Similarly, Mavidis and Folinis (2020) assert that security and trust have become a consistent and growing problem for e-procurement, especially when legislative frameworks, are lagging with the demands of the 21st century on such issues. In cases where the privacy and security of transactions are not guaranteed, Dlakuseni *et al.* (2018:344) assert that individual end users and entire business units will naturally resist any business change. Saeed and Leith (2003) examined buyers' perceptions of e-procurement risks and arrived at several risk-associated dimensions. These include security risks resulting from unauthorised penetration of trading platforms, failure to protect transaction-related data while being transmitted or stored; and privacy risks arising from inappropriate information collection and information transparency (bid, 2003:163). Kanyemba (2017:20) in a study evaluating e-procurement implementation in Malawi among government agencies underscored that hesitancy towards e-procurement was due to the risks and challenges

associated with doing business online. However, Mustaf *et al.* (2020) underscore that privacy and security concerns are less prominent in developed countries since in most instances they have a proactive legislative framework covering such issues.

5.4.1.2.3 Poor system specification

Poor system specification, an ICT infrastructure-related issue, has also emerged as a challenge to the implementation of an e-procurement system. Croom and Brandon-Jones (2007:4) in a study examining e-procurement implementation in the United Kingdom public sector indicated that systems-specific challenges are related to two factors linked to e-procurement implementation which are system integration and data management. Subramaniam and Shaw (2002) suggested that the legal and administration procedures as key challenges in system specification due to multiple legacy systems, different data formats, and complex processes. Additionally, Addo (2019) citing Croom and Brandon-Jones (2009) asserts that issues related to system specification include internet access, ICT hardware resources while data management issues include limited management information levels. Studies by Croom and Brandon-Jones (2009) are supported by recent literature by Boafo *et al.* (2020) and Aduwo *et al.* (2016) who underscore that the technology aspect of e-procurement derails most projects in developing countries. Specifically, within the African context, Elegbe (2014) asserts that infrastructure upgrades are not usually considered when procurement reform is underway, but the absence of adequate supporting infrastructure will undermine procurement reforms.

5.4.1.3 Environmental challenges to e-procurement Implementation for public sector procurement

5.4.1.3.1 Design Reality Gap

The design reality gap is a prominent challenge among developing countries seeking to adopt and implement e-procurement systems. Studies by Heeks (2003:3), provide that the design-reality gap is perceived as the misalignment of the present realities and the design of e-government solutions. This challenge arises from the notion that developing countries are dependent upon technology transfers from developed countries which do not suit local contexts, which results in technology failure. Choi *et al.* (2016: 646) underscore that the wider this gap between local reality and system design, the higher the chances of failure; the narrower the gap, the higher the

chances that the e-government project will succeed. In most African countries, public procurement reforms have been preceded by assessments of the existing system, either by consultants or by external donor agencies particularly the World Bank through country procurement reports (Dza *et al.*, 201:51). Mustaf *et al.* (2020:62) therefore contend that in many countries, e-government services adoption and use remain limited because it is primarily being guided by the factors on the supply side.

Furthermore, Chikerema (2020:12) asserts that e-government implementation owes to the design-reality gap and that the notion of 'gap' is not merely the current realities such as technical capabilities, context, capacity, and situational factors. However, it is also about how governments often mirror a technical and functional approach rather than a needs-based and design-thinking approach. Hence Pitso *et al.* (2018:361) underscored that Africa's e-procurement lesson could potentially be based on the developed countries' context which is significantly different from the African context. Mohammed (2021:4) suggests that the furthestmost e-government usage in those countries is based on activities that were completed in developed countries. Besides, there are many considerable differences in numerous features of e-government that connect social and technological conditions in developed and developing countries the ideas, strategies, and experiences of e-government in developed countries are not suitable to apply in developing countries (Odat, 2012). The design-reality gap challenge is valid, however, in reality, Rajah (2015:15) contends that for developing countries it is challenging for them to customise e-government applications to local conditions.

5.4.1.3.2 E-procurement complexity

Literature evidence provides that the complexity of e-procurement systems makes their deployment very problematic (Barahona *et al.*, 2015; Brandon-Jones & Kauppi, 2018; Chen *et al.*, 2021). Neef (2001) asserts that the multi-dimensional aspect makes e-procurement especially complex to an organisation's traditional purchasing practices. E-procurement involves every department across the organisation, for instance, IT, finance, and accounting, or even the legal department and several end users. E-procurement planning and implementation procedures, integration of all those departments contribute to its complexity (Brandon and Kauppi, 2018). A different view is shared by Hashim *et al.* (2010:2) contending that the art of the

complication of ICT procurement in particular is that the acquisition of ICTs is not just about the purchase and use of hardware and software among different organisational users. However, it is also inherently tied to the acquisition of a variety of services, support personnel, and any items that have either a direct or indirect effect on ICTs. Hence Pitso *et al.* (2018) suggest that innovation complexity affects the adoption because of the understanding that the more difficult for an innovation to understand; the more difficult for an innovation to be implemented.

Additionally, Bojang (2020:4) asserts that many e-government projects are very complex, involving multiple tasks, such as constructing a large-scale ICT infrastructure, restructuring public activities, and providing broad ranges of public services. Due to these complexities, such projects are generally at risk of having undesirable objectives. Moreover, Brandon and Kauppi (2018:13) citing Finger *et al.*, (2014) underscore that the IT paradox is quite evident whereby significant gaps exist between investments in and returns on technologies. This is compounded by the complexity and implementation time of technology projects that often exceed the capacity, incentives, and permanence of government (Bojang, 2020:2). Matook and Brown (2017:1) emphasize the complex nature of systems in general postulating that it is important to be patient about realising value from ICT implementations in developing countries. Choi *et al.* (2016) citing (Corina 2011: 121) assert that “one explanation for the low rate of adoption could be that the implementation process of e-procurement is very complex and that the main benefits of e-procurement can be achieved only in the long-term”. Pitso *et al.* (2018:317) conclusively contend that the management’s perception of the complexity and compatibility of e-procurement affects their behaviour to support the adoption of e-procurement.

5. 5 METHODS

A qualitative case study approach was adopted to gain a better understanding of the challenges of e-procurement implementation within a local government context. Leedy and Ormrod (2010:149) underscore that case studies are perceived to be a suitable research design to investigate a little-known or poorly understood situation. The researcher adopted semi-structured interviews and documentary research as research tools for the study. This triangulated approach to data gathering is advantageous in such a way that it builds methodological rigor (Kumar, 2019).

Interview participants were drawn from a sample population that included HCC officials (which consisted of service department heads or directors, ICT and Supply Chain Unit personnel), Procurement Regulatory Authority of Zimbabwe (PRAZ) officials, academic personnel, and Ministry of Information, Technology and Courier Services and Combined Harare Residents Association (CHRA). Therefore, a total of thirty (30) participants were drawn from the population through purposive sampling. The researcher drew the sample from different representative groups which enabled the researcher to get multiple meanings and interpretations rather than impose one dominant interpretation from a particular group (Kumar, 2019:195).

The researcher reviewed the literature on e-government, ICT, and e-procurement adoption and implementation challenges, which gave credence to the fieldwork done. Overall, this helped the researcher to gain a balanced analysis of the research findings. The analysis of data was done qualitatively using thematic means. Thematic analysis allowed the researcher to identify, analyse, and report patterns within data (Braun & Clarke, 2006). Initially, the researcher identified dominant responses and generated initial codes by organising data in a meaningful and systematic way. This implies that each part of the data which was relevant to the research questions was coded. The researcher went further to identify themes by examining the codes that were already created in the second phase of this process (Braun & Clarke, 2006). The thematic analysis enabled the researcher to discuss the recurring themes across the research findings. In undertaking this study, research ethics were observed, for instance the researcher informed participants of the nature of the study, and to maintain confidentiality and anonymity the researcher did not use names in the reporting of findings. In addition, the researcher ensured that the authenticity of the findings was maintained by quoting the direct verbatim of participants in the presentation of findings.

5.6 PRESENTATION AND DISCUSSION OF STUDY FINDINGS

This section provides key insights of study participants on the challenges hindering e-procurement implementation at the HCC. The failure of successful e-procurement implementation at HCC mirrors the unsatisfactory e-government implementation state across government departments in Zimbabwe. Studies by Rajah (2015:11) affirm this position postulating that since the inception of e-government, the

government adopted strategies, and policies, without significant achievement of their original intended goals. Mahlangu and Ruhode (2021:3) additionally, underscore that the e-government landscape is chaotic which has derailed e-government growth over the years. In essence, e-government failure is a widely existing but poorly understood phenomenon due to implementation challenges as cited by Bojang (2020:4). The following is a presentation and discussion of the study findings.

5.6.1 External challenges towards e-procurement implementation at Harare City council

The following is a presentation of findings related to challenges of e-procurement implementation that emanate from the context external to the HCC. These have both direct and indirect effects on e-procurement progression at the council.

5.6.1.1 Lack of central government support

The study sought to analyse how the lack of central government support influenced negatively on the implementation of e-procurement. Most respondents' views that emerged point to insufficient central government support regarding the promulgation of e-procurement policies, specific legislative frameworks, and guidelines. For instance, one academic personnel underscored that e-government procurement project leaders fail to build political support across government, mobilise resources and publicly take "ownership" of the project. Another respondent from the CHRA indicated that one of the challenges faced towards procurement reform besides e-procurement is bureaucratic foot-dragging at the central level of government in terms of pushing for e-government procurement policy. The above respondents' views are mirrored across documentary searches conducted by the researcher. Owusu (2014) underscored that the central government often falls short in helping local authorities in executing procurement reforms, offering limited guidance for implementation. Furthermore, if new policies on public procurement are adopted by the central government, government agencies have to adopt, implement, and adapt to the policies on their own with little or no human capital (Singh & Chan, 2022).

In addition, another HCC official proceeded to say "... there are no serious takers on the issue of e-procurement, hence we continue to see inconsistencies among government departments". The respondent underscored that the idea of e-

procurement remains fuzzy and unclear, it survives on mere talk and declarations by the central government and PRAZ. Another respondent from the academic fraternity further noted that “the government has a tendency of making policy or reform declarations for political gerrymandering, however, there is usually no follow-up done to ensure there is a successful execution”. The same has befallen the e-procurement policy, since its pronouncement there has not been significant progress in the implementation across government entities”. The respondents’ views indicate that there are no shared practices or procedures for e-procurement across the Zimbabwean public sector.

The same testimonies were shared by HCC officials who participated in key informant interviews indicating that the government had failed to craft sufficient laws and policy guidelines for e-government procurement. One HOD established that the current legislation for e-procurement do not provide clarity on several issues regarding e-procurement for instance software standards required for e-procurement systems. Another HOD reported that: “there is another drawback regarding the laws of electronically copied documents and transactions which are unsettled yet, therefore without an adequate legislative framework it is difficult to enforce such”.

In line with the above, the respondents’ views are valid because it is the central government’s responsibility to provide the general strategic direction on how agencies can operationalise reform proclamations made at the central government level (Kazaz & Inusah, 2022). However, in Zimbabwe, critical gaps remain in the policy and legal architecture underpinning digital public sector growth, particularly as regards data protection, and cybersecurity (World Bank (2021:69). The current prescripts for e-procurement legislation are not specific enough, which promotes ambiguity in the application of these legislations. Studies by Mahlangu and Ruhode (2021); World Bank (2021); Nhema and Zinyama (2016) also established that in Zimbabwe there was no specific e-government policy. Owing to these references for e-government initiatives are continuously made to old legislative promulgations like the National ICT Policy of 2016 which does not make specific reference to e-procurement.

5.6.1.2 Lack of a clear strategy for e-procurement

The study noted that the government lacks a clear strategy on how to successfully execute the e-government procurement which has created irregularities around implementation. It has been established that if the e-procurement agenda is not clear to the central government, it implies that the local level will face challenges in turning this idea into a reality. One respondent drawn from the academic fraternity suggested that:

“The failure of the government to craft an e-procurement strategy has made local governments to face challenges in the implementation process. A strategy is key as it sets out key procedures for implementation across the government. For the government e-procurement is still a vision and experiment oriented initiative rather than a solution -based scientific initiative”.

The above sentiment indicates that there are no set guidelines for e-procurement. Additionally, other responses directly point to the ineffectiveness of PRAZ as the driving entity for procurement reform across government entities. One respondent from the HCC articulated that PRAZ has failed to take a proactive approach in ensuring that government entities are set to adopt e-procurement.

A CHRA official also expressed the same views indicating the presence of much uncertainty on how e-procurement can be operationalised in the public sector. The respondent's views are presented in the following excerpt:

“The issue of e-procurement remains a challenge because the government has failed to sell the idea to its agencies, hence the implementation may be patchy and dependent upon agency goodwill”.

In conjunction with the above sentiments Manenji and Marufu (2016:83) underscore that the lack of a shared e-government strategy across government has led to differences in the adoption of e-government between ministries, departments, and agencies. Owing to this some entities have advanced quickly while others are still lagging. Therefore, the researcher deduces that there is no political will on the part of central government to set out priorities for e-procurement implementation. From the foregoing view it is evident that local government has expectations towards the central government regarding the implementation of e-procurement reforms, which

the latter has failed to meet. It can be deduced that local governments have been left to chart their own paths in terms of reforming their procurement procedures, as the central government has not provided adequate support.

5.6.1.3 Lack of coordination and communication among key stakeholders

The research findings point to a lack of coordination among various stakeholders that are meant to drive government-wide e-procurement. One of the gaps associated with e-government policy and e-government project implementation in Zimbabwe is the lack of collaboration between key stakeholders (Ruhode & Mahlangu, 2021; Manenji & Marufu, 2015). One ICT official from the HCC underscored that there is a minimum collaboration between OPC, Ministries, and entities that are working on e-government programs and projects. The same sentiments were shared by an official from the Ministry of ICT who indicated that a silo mentality in e-government implementation has derailed government projects. The respondent further indicated that such has made the government fail to get support for e-government-related projects from the internal users, the private sector who are potential funders as well as different government departments. Therefore, Apleni and Smuts (2020) underscore that the e-government landscape is fragmented within and across ministries, departments, and agencies which is a barrier to e-procurement implementation.

Moreover, another respondent from the Ministry of ICT and Courier Services added that “lack of coordination has resulted in duplication of responsibilities amongst organisations that are steering e-government policy implementation”. In addition, another respondent reiterated that the e-government policy framework does not clarify the responsibilities boundaries, hence one would find different government departments running the same project, which has cost implications on the government’s part.

More responses indicating the implications of poor collaboration were presented by the respondents from the HCC and academic personnel. One academic personnel indicated that lack of collaboration results in government entities establishing parallel systems of e-government which are difficult to integrate. On the other hand, an academic personnel view e-government failure in Zimbabwe as emanating from the

lack of a shared understanding of what e-government seeks to achieve. The respondent further indicated that this has implications for approaches taken in implementing e-procurement as well.

In support of the above sentiments, literature findings on the approach already taken towards e-government implementation, have implications on the operational effectiveness of e-procurement for local government. The World Bank (2021) underscores that due to a lack of coordination among key e-government stakeholders in Zimbabwe. The study indicated that integration partners such as Revenue authorities, Registrar of Companies, banks, and others have their action plans without e-government procurement. Hence, the World Bank (2021) reported that in Zimbabwe at the operational level, a lack of interoperability limits collaboration and data sharing making the realisation of e-government benefits merely a delusion. In consequence, Mahlangu and Ruhode (2021) the lack of interoperability results in the loss of entirely reaping the prospective benefits of e-government such as more efficiency; enhanced services to better serve citizens; and better accessibility of public services. In support of the findings Dias (2020) found that developing countries exhibit a significant lack of coordination among various stakeholders, which results in a higher rate of failure in implementing e-government projects. On the same note, Bwalya (2018:23) bemoans the lack of responsibility on the part of government leaders, weak coordination between the central and local governments as challenges for e-procurement.

5.6.1.4 Technology immaturity

The study findings establish that technological immaturity contributed to implementation failure at HCC, hence various perspectives were given regarding this issue. In an interview, one HCC HOD indicated that with the previous ERP the consultancy firm had personnel who failed to maintain the system. This indicates that even the consulting firms in the local context are technologically immature, regarding the skills set they own. In support of the HOD, one HCC ICT official indicated that what kills the effort to adopt e-government initiatives is the lack of maturity of software and hardware providers in the markets within developing countries. The respondent further reiterated that most systems in markets that local entities like

HCC can reach are immature allowing a limited number of procurement functions to be done on the system.

On a different note, one supply chain official established that the technical competency of suppliers derails efforts for e-procurement implementation especially at HCC. The study established that local governments like the HCC usually engage with small firms which are usually averse to innovation and technological growth. The study provides a unique perspective from available literature which heavily focuses on the technological competency of the buyer or an implementing entity as derailing factors to e-procurement. Previous studies by Kanyemba (2017), Mustafa *et al.* (2016) establish the lack of ICT tools as a barrier to e-government projects implementation of developing country perspective. Notwithstanding the challenges of ICT tools faced in developing countries, this study provides a unique perspective on the effect of context on e-procurement implementation. The level of technological growth within the environment in which an entity seeking to implement e-procurement has implications for implementation progress. The study established different perspectives on the effect of technology immaturity from the market, suppliers, and consultancy and advisory services as critical factors that are likely to affect e-procurement. Mostly importantly this study revealed the unique role of advisory services (AS) in e-procurement implementation which is often overlooked but can have a positive impact on breaking down barriers and realising the benefits of e-procurement adoption (Belisari *et al.*, 2020).

5.6.2 Internal challenges towards e-procurement implementation at Harare City Council

Organisational challenges are usually linked to the internal context in which innovation takes place (Cinar *et al.*, 2019), hence the following is a presentation of e-procurement challenges derived within the HCC as the case study under investigation.

5. 6.2.1 Poor planning on the council's part

The study established that the lack of planning by the HCC is a hindrance to the implementation of e-procurement as evidence points to the absence of documented and executable plans or strategies for the deployment of e-procurement. In an interview, one supply chain official:

“One challenge we face as the procurement department is that the issue of e-procurement is always raised as a recommendation that can be adopted to address challenges of manual procurement, but up to now top management has not come up with actionable plans for e-procurement”.

Another respondent also highlighted that even across the supply chain and ICT divisions, the implementation of an e-procurement system is not part of the Key Performance Indicators (KPIs). Other respondents among HCC HODs suggested that failure to plan for e-procurement within the HCC was due to the absence of an e-government procurement policy at the national level. One of them indicated that; although we are devolved entities, we heavily rely on what is stipulated by the central government in terms of policy, hence we always refer to priorities stipulated by the central government. For now, we are waiting upon the central government to provide clarity through policy”.

In addition, another official from the supply chain bemoaned poor planning on the part of the HCC however further castigated the central government for its failure to provide strategic direction local government can pursue for e-procurement reform. The official’s remarks are presented in the following excerpt:

“Poor planning is a hindrance to most projects, in our council’s case one clear indication shows that the council has failed to modernise our procurement systems is the absence of an internal strategy that operationalises e-procurement. This confusion however cascades from central government down to the local government because even at the centre the e-government agenda is not clear”.

The above responses indicate that the HCC has no intention to implement an e-procurement system, if intends to it would be in a haphazard manner as there are no guidelines in existence to support such an initiative. The failure to plan for e-procurement largely derives from the HCC officials’ perception that they have to rely on the central government for them to make initial agenda-setting for e-procurement reform. The study findings at HCC are different from what emanates from other developing country’s experiences. From the OECD (2019)’s perspective planning for e-government procurement in developing countries is a challenge especially if reform initiatives are imposed by either donors or the central government. This is evident

from the research findings from a review of e-procurement system implementation in eight (8) African countries done by Open Contract Partnership (2022:7). The study established that most implementation exercises were driven by donor demands and funding availability of funds rather than a strongly articulated domestic need anchored in the local context. The World Bank (2021) provided that e-procurement without initial needs assessment makes planning for change difficult for an organisation. Hence, Hashim *et al.* (2010) underscore that in such situation entities fail to plan for risk associated with e-government projects, without a contingency plan in place.

5. 6.2.2 Previous bad experiences

Based on previous implementation attempts, there was a consistent remark that the HCC is not competent enough to run an effective e-procurement system. Hence most respondents from the HCC expressed apathy towards e-procurement implementation, which can make users less receptive to a new system. The researcher therefore, deduced that most respondents from the HCC expressed frustration and less enthusiasm with the previous ERP the council had implemented. These past implementation experiences set wrong precedence about the council's ability to introduce an effective system to drive procurement.

In an interview a supply chain official remarked that the previous system could only allow a few procurement functions to be done online, thus this system of double work preparing online and offline procurement documents was tedious for users.

Another HCC official was sceptical about implementing an e-procurement system. This was evident from a supply chain official's remark who had this to say:

"It will take a lot of bargaining and constructive engagement by top management for user departments to adopt and implement an e-procurement system. The previous ERP tool had challenges, either the system would occasionally boot out users or at times it was difficult to locate information stored across the system".

Another ICT official remarked that users experienced frequent system errors and unknown errors which made it an unreliable tool for procurement.

One HOD had this to say about the previous ERP tool adopted as part of e-procurement efforts by the council:

“The previous ERP system left the council accounts in shambles; we cannot have another system of that nature again. We were left in jeopardy, we lost a lot of information, the council failed to account for over \$US 100 000”.

Further, the Zimbabwean parliament Public Accounts Committee on the analysis of the Auditor General ‘s Report for Harare City Council of 2022 revealed that the council officials justified cancelling its contract with Quill because the BIQ system failed to function properly and their ICT technicians had challenges with operating the system. The report’s findings are buttressed by Gondo (2021) who reported that the HCC ‘s previous attempts were fruitless as the ERP services provider only managed to implement 50% of the system before withdrawing completely its services. Hence, Shakya (2017:7) underscores that a fragmented and ad hoc implementation of the e-government procurement system not only engenders inefficiencies, but also complexities in the workplace, and frustrations for users.

The HCC case study findings affirm literature findings that highlight the importance of users’ perception of the quality of an e-procurement system (Brandon-Jones & Carrey, 2011:6; Brandon -Jones & Kauppi 2018). In the case of HCC, the user perceptions hurt the prospects of implementing e-procurement systems. Pitso *et al.* (2018:24) underscore that users are likely to lose confidence in using a certain technology if there is no clear evidence of its efficacy. Therefore, taking into consideration the respondent’s views, it can be drawn that HCC’s history negatively affects the propensity of e-procurement implementation now and in the near future. The study findings are unique in that they reveal the significance of user perception, which is not commonly explored in the literature (Ahmed, 2019). User experience is a key determinant and if users are not satisfied with a system hesitancy grows.

5. 6.2.3 Preference for legacy systems

Regarding the impact of legacy systems, the study established varying perspectives on how they are likely to be a barrier to e-procurement implementation. Hence, Asamoah (2019), postulate that the status quo bias could influence compliance with public procurement laws and regulations in sub-Saharan Africa. During an interview with a supply chain official, it was established that introducing a new system will face

a lot of hesitancy, especially among users, not because the current procurement methods are efficient, but because of the complexity of dealing with a completely different system. The organisational legacy systems may not be technically compliant with e-procurement systems and thus forcing organisations to change such applications before acquisition and implementation (Pitso *et al.*, 2018:316). E-procurement can uproot institutionalised work practices which can be perceived as a challenge (Barahona & Elizondo, 2012). Thus, it is common for public officials to continuously use old ways of carrying out government activities despite the growth of ICTs (Akpan-Obong, 2017:39). The author further indicated that this practice is termed 'Only Hard Copies Accepted Here'.

An almost similar perspective was shared by academic personnel underscoring that in most government entities it is difficult to implement e-government reforms like e-procurement due to bureaucratic dysfunctionalities in practice and such a legacy system cannot be altered easily. In addition, a CHRA official indicated that local governments especially the city of Harare have failed to transform the public procurement function due to a pushback attitude that is exhibited when it comes to technology implementation. The respondent's view is presented in the following excerpt:

"For instance, while other local authorities in Harare Province have adopted a locally invented ERP system, Local Authorities Digital Systems (LADS), made for Zimbabwean local authorities, the HCC has failed to leverage this technological infrastructure to its advantage. This system has the sole purpose of improving the city council 's operations into automated systems. We have occasionally called during our feedback meetings with council management to embrace this system since most of their accounts are in shambles due to the absence of an ERP".

From a different perspective, academic personnel indicated that introducing an e-procurement system can be met with a lot of hesitancy especially if the management has not made it clear that an e-procurement system does not necessarily mean that their jobs are being replaced. Similarly, a CHRA official argued that bringing technology into the workplace has far-reaching and often opposite ramifications of the de-skilling of jobs. The respondent had this to say; this tendency of saying "out

with the old, in with the new" attitude, threatens to break down the traditional chain of command. The respondents' observations can be attested by findings by Kanyemba (2017) indicating that employees can resist an innovation especially new technologies if they feel that it is a threat to their jobs. Ahmed *et al.* (2018) explained the role of bureaucracy for e-procurement implementation in Bangladesh indicating that it can hinder the process.

It can be drawn from the research findings that e-procurement implementation at the HCC is hindered by a culture of high-risk aversion which can serve as a source of restrictive behaviour among organisational members. Additionally, drawing from the study findings, respondents are of the view that HCC officials are not willing to introduce new systems to which they are not accustomed to, preference is towards the use manual systems. Organisational users prefer to maintain old ways of doing business, if a new program is introduced it's likely to suffer from a lack of shared understanding in terms of goal consensus (Mustaf *et al.*, 2020). Therefore, Asare *et al.* (2012) underscore that antiquated administrative cultures have dominated the under-resourced and unaccountable bureaucracies and these serve as barriers to adopting online procurement. Despite this, the government must coexist with the implications of the information era; the transition towards e-procurement is disruptive and it poses significant challenges to the way that the public sector has to operate and interact in the 21st century (Barahona & Elizondo (2014:1798).

5. 6.2.4 Lack of funding

Mahlangu and Ruhode (2021:3) underscore that the funding challenge derails e-government projects in Zimbabwe. Most HODs from the HCC indicated that the hyperinflationary environment had affected negatively the upgrade of infrastructure. One HOD reiterated that our financial complications have not only derailed the acquisition of a new e-procurement system, but most of our projects have come to a halt due to finance shortages. The official's view is presented in the following excerpt:

"You would want to ask why we do not resonate with other forms of funding like borrowing as a city council, however, the overall impression is that despite fiscal decentralisation, the central government still has a tight grip on local

authorities where decisions related to borrowing and tax rate are subject to the approval of the Minister of local government. Our hands are tied that way”.

Another HOD from the HCC indicated that the declining government funding has only served to exacerbate the situation, because the city council itself is facing challenges due to low revenue generation, hence most of the council's funds are tied in debt. This criticism was supported by Gondo (2023) who reported that over the years, by January 2023 the city council is owed more than ZW\$ 90 million by government, businesses, and residents as reported by the City of Harare Mayor.

Another respondent reiterated that local authorities continue to lean on the declining central government financing in the form of government transfers, grants, and loans among others. However, central government funding is unstable and unpredictable, hence it has drastically slashed its subsidies to local authorities owing to increasing governmental financial obligations and a declining economic environment. The HCC official's perspective on placing funding obligations upon the central government is supported by provisions of the Constitution of Zimbabwe of 2013. The legal piece provides that 'five percent (5%) of national revenues must be allocated to provincial and local governments', however, in practice this share is not reached.

However, the research established that most respondents drawn outside the HCC placed the financial incapacities to acquire an e-procurement system upon the city council. One academic official established there is a lack of prioritisation about the acquisition of an e-procurement system. "E-procurement implementation requires continuous and incremental investment which our local councils are not capable of sustaining" indicated an official from PRAZ reiterated.

In the review of study findings, however, most of the respondents' views were vague on how limited financial capacity affects e-procurement implementation except for one PRAZ official who indicated that funding is limited because technology implementation is incremental, for sustainable solutions there is a need for huge investment in maintaining systems. The funding requirements of e-procurement are multi-faced as established in literature review findings. For instance, in examining e-procurement implementation in Malawi's three public entities including one city council entity, Kanyemba (2017:40) established that the cost of acquiring ICT infrastructure was overwhelming to implement e-procurement systems. In a different

study undertaken by Nawi *et al.* (2017) the cost of training employees with the introduction of an e-procurement system remains a challenge. However, Afolabi *et al.* (2019), and Moon (2002) underscores that in the acquisition of the e-procurement system, most organisations overlook other costs that can arise during implementation and focus on the acquisition of the e-procurement technology only. Additionally, Anthony (2016:24) asserts that cost savings are one of the significant benefits of e-procurement, however, the costs involved in implementing and operating the system can be financially crippling. Such hidden costs which are less likely anticipated include licensing costs, and consultancy fees (system maintenance).

Hence, drawing from the literature review that highlights cost implications associated with e-procurement, it can be established that the HCC has failed to identify key priorities for e-government implementation that requires funding, however, there is a general belief that undertaking e-procurement is an expensive initiative for a local government entity. In addition, considering the respondents' views it can be established that the management has failed to do cost estimation or accounting, hence in such instances it is difficult to justify a request for funds. Therefore, not downplaying the fact that e-government projects are costly, at HCC the case may be that e-procurement system implementation was not budgeted for. This challenge indicates the unique nature of challenges associated with e-government reform in local government, decentralised systems do not have sufficient capacity to spearhead e-projects independently, and local governments are usually under resourced.

5. 6.2.5 Lack of professionalism in public procurement

The study findings established that lack of professionalism is a contributing factor to e-procurement implementation failure. Literature findings equate a lack of professionalism to a lack of integrity in executing the procurement function among practitioners. Coggburn (2003) asserts that an entity with a professional administrative environment is more congenial to technology implementation and use. E-procurement, in this regard, could be considered a result-oriented management process, which could lead to innovative procurement practices in the public sector (Coggburn, 2003). Further, Osei-Tutu *et al.* (2019:11) citing Brudney and Selden

(1995) indicated that an organisation with high level of professionalism is more receptive to change and believes a professional administrative atmosphere is conducive to effective procurement.

The idea of lack of professionalism was supported by respondents drawn from outside the HCC. One academic personnel indicated that e-procurement is derailed due to a lack of professionalisation in the procurement discipline in Zimbabwe. The respondent indicated this:

“Recruiting and retaining specialised human resources in the public sector continue to be a challenge where digital skills have not traditionally been part of professional development within the government sector”.

Although the respondent’s response does not present a direct connection between e-procurement implementation and professionalism, it points to the fact that ICT skills improvement across the procurement fraternity is not a priority which presents as a hindrance to e-procurement adoption and use.

Additionally, another respondent drawn from academia presents a clearer perspective on the implications of the unprofessionalism of e-procurement implementation in government. The respondent’s view is presented in the following excerpt:

“Due to lack of professionalism in public procurement, most organisations suffer from a lack of a culture of continuous improvement. In organisations where such a culture exists, procurement professionals are encouraged to stay updated with emerging trends and technologies in the field of procurement”.

A PRAZ official indicated that local governments are adamant about adopting electronic methods of procuring, despite efforts by PRAZ in trying to sensitise local government leadership that procurement has a strategic role in modern governance. As such the respondent further indicated that local governments want to continue conducting their procurement in an unprofessional manner.

The research established that documentary findings also support the notion that the lack of professionalism derails e-procurement implementation. For instance, Moon

(2005:58), asserts that it has been argued that an organisation with a high level of professionalism is more receptive to changes and tends to value managerial characteristics such as efficiency and effectiveness. Hence, such an organisational environment enables practitioners to identify strategies for procurement optimisation for instance adoption of innovative tools (OECD, 2021). Additionally, a state where procurement professionalism is more valued tends to pursue innovative procurement practices such as e-procurement. Thus, such characterisation leads to the following hypothesis that “state governments with greater levels of procurement professionalism are more likely to adopt e-procurement” (Moon, 2005:69). Therefore, drawing from both interview findings and documentary search, it can be noted that lack of professionalism has become a risk towards the implementation of e-procurement evidenced by the lack of will to reform the procurement function. The procurement function has not been prioritised for its strategic significance.

5. 6.2.6 Limited Technical Competencies

The study sought to establish the extent to which limited technical competencies can be a barrier to e-procurement implementation at HCC. The general belief amongst respondents is that there is limited technological literacy within the public sector and this is equally applicable to local authorities like the HCC. A review done by the World Bank (2018 b) on the state of the digital economy in Zimbabwe, established that the ICT sector across the public sector competes with the private sector for technical skills. One academic responded by suggesting that low technology literacy among public offices that are in charge of making critical service delivery decisions and acquisition of digital systems influence negatively e-procurement implementation. An almost similar perspective shared by academic personnel was that a dearth of relevant skills is chronic in the government, and the complex nature of the systems being purchased, and their long-term impact requires a higher level of technical competencies to ensure informed decision-making.

However, the HCC officials provided different perspectives from the general understanding of academic personnel highlighting the availability of limited skills as an implementation challenge. Limited skills related to system maintenance, and choice of e-procurement model or software were among the challenges highlighted by the HCC officials. For instance, one HCC HOD indicated that an e-procurement

system is complex, it requires an expert who can make the right choice that makes a perfect fit for an organisation. The respondent indicated this:

“The implementation of e-procurement is not simply a matter of choosing between one product or another, but rather evaluating different smart systems with an eye toward the system’s efficacy to organisational needs, due to technical competence, this has become a hindrance.”

Another ICT official underscored that ICT tools like ERPs require constant monitoring to afford system maintenance which affects its operational effectiveness. Secondly, the respondent further indicated that e-procurement systems work best if they are integrated with other organisational systems, such as a skill set that can enable such to happen is not available for the HCC. Additionally, a supplier chain official indicated that the HCC with its previous ERP, the HCC heavily relied on third parties (consultancies) to reconfigure and reengineer systems, and such indicates that the HCC does not have adequate human resources with ICT competence.

The above findings are not in congruence with most study findings which emphasise the limited user competence as a barrier to e-procurement implementation. For instance, Brandon and Kauppi (2018) bemoan the lack of timely and up-to-date technical education and training for using e-procurement systems in the public sector. The World Bank (2021) further asserts that organisations struggle to obtain employees with the right skills to harness technological opportunities.

Pitso *et al.* (2018:323), established the lack of expertise and skill sets required by top management concerning managing a project of the magnitude of an e-procurement system. In light of the foregoing, the current study findings regarding the effect of ICT illiteracy on e-procurement deviate from the generality of literature findings. It is common across the literature that users’ ICT competency influences greatly the implementation of e-procurement systems. The study findings provide a unique perspective on the influence of ICT skills which go beyond the user, to incorporate other strategic stakeholders whose level of ICT competency can influence implementation success. Hence, McKinsey Company (2016) underscores that in the public sector in some instances recruiting responsibilities for ICT personnel are delegated to departments that do not have an adequate understanding of procurement software and maintenance needs.

5. 6.2.7 Corruption

The study established that corruption is a hindrance to e-procurement implementation at the HCC. From the documentary search, it can be drawn that corruption had developed to be a culture that does not only distorts procurement activity, however, e-government projects as well. In an interview, one academic personnel indicated that there is likely to be low levels of motivation for the implementation of electronic tools at the council because procurement is their cash cow. The adoption of e-procurement implies that there would be an increased scrutiny of procurement and such initiatives are not fully supported by individuals who benefit from the continued use of manual methods. In support of the corruption claims by the previous respondent, a CHRA official indicated this:

“The council management fails to embrace digital technologies because top officials do not prioritise organisational growth, only enlarging their pockets, there is too much resistance and discouragement in politicking when it comes to reforms that unearth their incompetence. Resultantly there is no motivation to revamp it.”

Although the respondents point out that HCC fails to adopt e-procurement systems, this sounds lack of willingness of HCC management to reform the procurement function. However, a documentary search conducted by the researcher seems to substantiate the respondents’ assertions about corrupt tendencies at the HCC in its previous attempts to implement an e-procurement system. The respondents’ views have merit as the Zimbabwean Parliament Public Accounts Committee on the analysis of the Auditor General’s Report for Harare City Council, 2022:2) established that city council officials acted in a corrupt manner in engaging its ERP system provider. Machivenyika (2023) reports that HCC engaged SAGE after cancelling a contract with its previous solution provider Quill Associates in 2019. The Public Accounts Committee Report (2022:4) unearthed that the premature contract cancellation was alleged to be motivated by corruption.

However, literature findings establish that corrupt tendencies drive procurement practitioners to evade the use of e-procurement systems. Hence, Aladwani (2016) underscores that corruption can restrict the capacities of e-government projects to match the expectations of stakeholders and it also distorts government standards to

supervise the general administrative system. Thai (2017) adds that corrupt tendencies are detrimental to e-procurement implementation especially if users tend to abuse the system by finding routes to flout the mandated procurement procedures. In the case of HCC, it can be established that an organisational culture of corruption contributes to the failed attempt towards e-procurement implementation.

5. 6.2.8 Unreliable power supply

The study sought to establish the implication of unreliable power towards e-procurement implementation. Most respondents both from within and outside the HCC bemoaned the recurring and unscheduled power cuts as a deterring factor. One supply chain official highlighted that adopting e-procurement at this stage makes use of ERPs or whichever technology the council chooses to adopt very unreliable. Since most of the stages are done online or any documentation that is prepared for procurement needs to be uploaded online, being off-grid implies that nothing moves. This is why most entities usually prefer to adopt partial systems of e-procurement because having everything to be done online is problematic.

Another respondent had the following remarks “.....from my point of view the functionality of an ERP is determined greatly by a sustainable power supply, in this country there is no guarantee that can be attainable, that’s the risk we are likely to face as council”. An official from the ICT department gave the following remarks about the severity of power supply which negatively influences e-procurement implementation. The respondent remarked that:

“Load shedding is not scheduled; we are always off-grid. Moving to online procurement in such a state of affairs will create a lot of inconsistencies than those encountered in the manual procurement system. E-procurement initiatives become so demanding and it imposes much strain on us, having to source another source of power.”

Moreso, another view by an interview participant from PRAZ was that those power challenges have implications on the stability of broadband or internet connections, that’s why it is difficult to transcend from a manual procurement system, our operating environment has an overbearing effect upon what we incorporate into our organisations.

The respondents' perceptions are validated by previous studies indicating that intermittent power supply can be a discouraging factor for both adoption and use of online procurement. Firstly, the National ICT Policy of 2016 cites a shortage of electricity and limitations of the national power grid affecting e-government development in Zimbabwe. More recently the World Bank (2021:105) reported in its Digital Economy Diagnostic Report on ICT growth that in Zimbabwe power shortage has remained a primary constraint and if such remains unsolved introduction of more e-government systems risks excluding small and medium enterprises. Mahlangu and Ruhode (2021) suggest that due to the lack of electricity infrastructure in Zimbabwe, e-government systems cannot run smoothly and user satisfaction is likely to be minimized since the system would be ordinarily offline. Owusu (2014) in a study examining e-tendering in construction companies in Nigeria established that companies failed to embrace e-tendering as an option for procuring due to power supply irregularities.

Osei-Tutu *et al.* (2019) evaluated the critical factors for the implementation of e-procurement in Ghana. Their findings revealed that "availability of stable power, internet connectivity is critical for implementing e-procurement systems". Similarly, Aduwo *et al.* (2016) though not specific to power supply inadequacy highlighted infrastructure challenges as common barriers in most developing countries. Drawing from literature findings and respondents' perceptions it can be established erratic supply limits the implementation of e-procurement because of two points, e-procurement means conducting procurement online, therefore power supply determines online presence; secondly, strong internet connection which enables e-procurement users to access portals are strongly reliant upon power availability. Therefore, from the discussion, respondents perceive that power challenges can distort e-procurement reliability as a tool for procuring goods and services.

5.7 CHAPTER SUMMARY

The chapter has managed to investigate the key challenges towards the implementation of e-procurement at the HCC. The findings are consistent with literature findings that developing countries, especially in Africa experience far more challenges in reforming procurement procedures than their developed country counterparts (Boladale & Olasunkanmi, 2022; Adebayo, 2015; Twizeyimana &

Andersson, 2019). Considering such differences, many implementation challenges need to be redefined when the unit of analysis is a public organisation. Beyond Africa, from a global perspective Barahona and Elizondo (2012:110) there has been a slow progression of the e-procurement system with many initiatives remaining partial solutions or being aborted. The widening gap in the implementation of e-government in developed and developing countries is contributing to the phenomenon of the 'digital divide', which is severely damaging the potential to harness the power of technological innovation to streamline the government-level processes and facilitate the provision of services for citizens (UN Report, 2018). Such findings imply that context is a significant determinant for variations in implementation experiences between developing and developed countries.

In line with the above, the study findings are significant that they revealed context-specific challenges, rather than making generalisations on e-procurement implementation challenges. This is because Ahmed *et al.* (2019) underscore that contextual differences may not only emerge between developing and developed countries but also among developing countries. Hardy and Williams (2008) underscore that the historical, social, cultural, and economic context varies from country to country. Therefore, attention to e-procurement challenges in local government is salient to this study because the study of local government procurement practices is relatively new compared to other topics in public administration research (Trammell *et al.*, 2019). This implies that the local level of e-procurement challenges usually receives little focus in literature. Hence, this study provides empirical evidence of the challenges faced in implementing a decentralised e-procurement system in a local government context. The research findings have implications for formulating strategies for addressing e-procurement implementation challenges.

The study established various challenges associated with local government e-procurement, most of which are interrelated. Despite there being external and internal barriers, these factors seem to reinforce each other. For instance, the lack of strategy for e-government and e-government procurement policy at the national level has affected strategic planning at the local government. Similarly, the deteriorating economic environment pushing a decline in central government grant support has

had implications on the HCC's financial standing to deploy and upgrade the ICTs system. The study also revealed a connection between these factors: lack of funding, lack of skills, and technology immaturity, these may not come alone but stimulate each other in different ways. Therefore, factors are intertwined together in such a way that they mutually strengthen or soothe each other. Resultantly, the study findings are prescriptive in that in the process of formulating strategies for e-procurement implementation it is important not to treat implementation obstacles as independent, unique or in isolation, however, they should be perceived as interrelated factors. Recognising the interrelatedness of these challenges is essential for tailoring e-procurement strategies and providing targeted support to overcome barriers to successful implementation (Mavidis & Folinas, 2022). The reality is that e-procurement implementation in local governments is an intricate process where determinants can be interrelated and have interactive effects (Chen *et al.*, 2021:2).

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The previous chapters of this thesis managed to address the key research questions that the study sought to address, therefore in consideration of such, the current chapter seeks to provide conclusions, and make recommendations for the study. Central to this study is to propose a framework for e-procurement system implementation for local government. The table (6.1) below is a summary of the chapters and the issues they covered as they appear in the thesis.

Table 6.1: A summary of thesis chapters

Research Question	Research Objective	Thesis Chapter
What are the key concepts, theories, or models relevant to e-procurement available in literature?	To explore key concepts, theories, or models relevant to e-procurement available in the literature.	Chapter 2
What is the relationship between e-procurement readiness levels and prospects of e-procurement implementation at Harare City Council?	To investigate the relationship between e-procurement readiness levels and prospects of e-procurement implementation at Harare City Council	Chapter 3
What are the factors that influence the design, development, and implementation of a framework for enhancing e-procurement implementation towards effective service delivery in local government?	To examine factors that influence the design, development, and implementation of a framework for enhancing e-procurement implementation toward effective service delivery in local government	Chapter 4
What are the challenges being faced towards e-procurement system implementation at Harare City Council?	To identify challenges Harare City Council is facing towards the implementation of e-procurement system	Chapter 5

Author's illustration (2023)

6.2 Conclusions to the study

6.2.1 Key concepts, theories or models relevant to e- procurement available in literature

The study established that e-procurement is perceived as a critical component of the e-government agenda. Various themes emerged which point to how e-procurement is perceived in public procurement literature (it is perceived as a procurement reform, innovation tool, an a-business tool as well a tool for good governance). Literature suggest that e-government studies suffer from under theorisation, this gap was addressed by adopting Digital Era Governance, Diffusion of Innovation Theory and Technology, and Organisation Environment Framework (TOE) framework to investigate the implementation of e-procurement. The study established that whilst there are several theories to explain the implementation of digital technologies, the DOI, TOE and DEG theories or models suit the study of e-procurement by exploring the government context implementation factors. In this study the DOI theory explained how innovations attributes like complexity, triability and relative advantage influence the implementation of e-procurement The DEG proposes the centrality of digital technologies which makes it distinct from other e-government models like the NPM. The TOE proposes the environment dimension to the widely adopted organisational and technology dimensions to explain the e-procurement implementation process.

6.2.2 Relationship between e-procurement readiness levels and prospects of e-procurement implementation at HCC

One of the study goals was to ascertain the relationship between e-procurement readiness levels and the prospects of e-procurement implementation at HCC. E-procurement readiness was investigated along the technological, management and environmental dimension which helped in establishing readiness indicators common with the HCC. In line with the technological readiness dimension, the study identified readiness indicators which included the HCC website, PRAZ central portal and ICTs (hardware and software), internet connectivity, these were not effective to propel the full implementation of e-procurement. In terms of management readiness, the study concluded that the top management had not prioritised employee upskilling (equipping user departments on e-procurement) and it has failed to craft an e-procurement strategy or incorporate e-procurement in the strategic plans. In terms of

environmental readiness, certain indicators like the availability of ICT policy in Zimbabwe were supportive of the e-procurement agenda, although it was framed to support e-government implementation and not specifically e-procurement. Hence this study notes that that the HCC fares low in terms of e-procurement readiness which has negatively affected the prospects of implementing an e-procurement system.

6.2.3 Factors that influence the design, and development of a framework for e-procurement implementation towards effective service delivery in local government.

Among the research goals was the need to derive critical factors for the implementation of an e-procurement system which will inform the generation of a framework to guide e-procurement implementation. The case study reviews established several activities, key considerations and best practices for an organisation transitioning towards e-procurement. For instance, Seoul and Kigali City Council case studies revealed the importance of central government support, political will and funding in the implementation success of e-procurement. On another hand Ethekewini, Nottinghamshire, Vienna City Councils established that collaboration and availability of laws and regulations contribute towards the realisation of e-procurement implementation goals. However, the study established that for developing countries like Tunisia, unavailability of ICTs, poor coordination among others determinants has the capability to slow down e-procurement implementation. The study gathered that the interviews findings on e-procurement implementation factors align well with secondary data drawn from case studies' experiences. The study further generated other determinant factors for e-procurement implementation which include change management, business re-engineering system integration and compatibility among others. This study acknowledges that in the context of local government unique characteristics of local government like organisational structure, policies interact with several determinant factors to facilitate or limits the operational effectiveness and sustenance of e-procurement implementation.

6.2. 4 Challenges towards the implementation of an electronic procurement system at Harare city council

The study sought to investigate the challenges faced towards e-procurement implementation given that literature suggest that e-procurement challenges vary between organisations in different context. It can be concluded that the HCC's ability to effect e-procurement is mainly hindered by internal or organisational challenges, however, this realisation does not entail those external challenges that can be underplayed. The main challenges from the organisational perspective include lack of funding, poor planning, corruption, and preference for legacy systems. Notwithstanding the effects of internal organisational challenges, the HCC was negatively affected by a lack of central government support (poor funding and legislative gaps for e-procurement) and technology immaturity of the e-government environment in Zimbabwe. The chapter established that overall context had an overbearing implication on e-procurement implementation at the HCC.

6.3 Recommendations

6.3.1 Acquisition and upgrade of ICTs infrastructure

The HCC currently, should carry out frequent upgrades of the website so that it can become a functional tool for executing other procurement functions like tendering (tender notification and tender submission) meanwhile, before the acquisition of an end-to-end e-procurement system. The HCC ought to regularly evaluate new features and enhancements that can improve the website's functionality, security, and performance. The HCC ought to ensure a reliable and high-speed network infrastructure which can support the e-procurement system. This includes a well-designed local area network (LAN), wide area network (WAN), and internet connectivity. A strong bandwidth should be sufficient to handle the increased data traffic associated with e-procurement activities. The HCC should invest in acquiring e-procurement support hardware tools like computers or upgrading the current computer software to enhance their operational effectiveness.

6.3.2 Monitoring and Evaluation

Monitoring and evaluation enable organisations to measure the performance of e-procurement systems, this study recommends the HCC to craft a monitoring and evaluation plan for e-procurement implementation. This helps to determine system

operational efficacy in meeting user requirements. For instance, management can monitor user satisfaction, system accessibility, system uptime, and compliance with the principles of procurement (transparency, accountability). Continuous monitoring and evaluation can help in determining if the e-procurement system helps users to achieve procurement goals (the degree of usefulness of the new system, accessibility, and reliability). Evaluation helps in determining whether the system is being used in accordance with established procurement policies, regulations, and ethical standards. Such can help in identifying various aspects of the e-procurement system which require further improvement which optimise operational efficiency.

6.3.3 Capacity development

The study recommends that the management at HCC should ensure adequate e-procurement training support is rendered across all user departments at HCC. Regarding ICT skills of staff, Dunleavy *et al.* (2006) identify type of staff who are expected to have specific skills which include IT specialists, advanced users, basic users, and top-level users. The IT specialists, are those who are charged with developing, operating, and maintaining IT systems while the second group is competent users of complicated software and tools. The human resources department at HCC should support career development of procurement and ICT practitioners by encouraging them to engage in further education in their area of specialisation. In a bid to promote supplier adoption, the HCC can also provide training to their usual supplier base on e-procurement who are mostly Small and Medium Enterprises (SMEs). The HCC Human Capital development unit can also craft clear and concise e-procurement use materials such as user manuals, video tutorials, which can help users understand how an e-procurement system work.

6.3.4 Internal e-procurement regulations and policies

The HCC management should craft internal policies that regulate the use of e-procurement. These policies can be become operational guidelines for e-procurement implementation by internal users. For example, the management can craft effective risk management protocols to identify, assess, and mitigate potential risks associated with procuring goods and services online. The HCC management ought to craft regulations to safeguard sensitive procurement data and ensure compliance with data protection regulations. This can include the implementation of

secure access controls, encryption measures, regular data backups, and training programs to educate employees about data security best practices. The management can also establish guidelines for integrating procurement data with other systems within the organisation, such as finance, inventory management, or enterprise resource planning (ERP) system. It is also recommended for the HCC to develop a clear data sharing policy that outlines the organisation's approach to sharing procurement-related data. This policy should define the types of data that can be shared, the purposes for which it can be shared, the parties involved in data sharing, and any restrictions or safeguards in place to protect sensitive information.

6.3.5 Communication

The HCC senior management should communicate the e-procurement agenda widely across the various organisational levels, bringing clarity on how it fits within the council's overall mission and vision. It is important for management to create a communication plan to ensure that users are well acquainted with the advantages of e-procurement system. Effective communication plays a critical role in managing changes brought up by e-procurement and addressing any resistance or concerns from prospective users. The management at HCC should explain the need for change, articulate the benefits of the new system, and address any misconceptions or fears that users may have. Regular and transparent communication throughout the implementation process helps prospective users to adapt to the changes more smoothly and embrace the new system. In addition, the establishment of clear communication channels within the council can help to clarify the misconceptions about ERPs and e-procurement system among the internal users.

6.4 PROPOSED FRAMEWORK FOR E-PROCUREMENT IMPLEMENTATION AT HCC

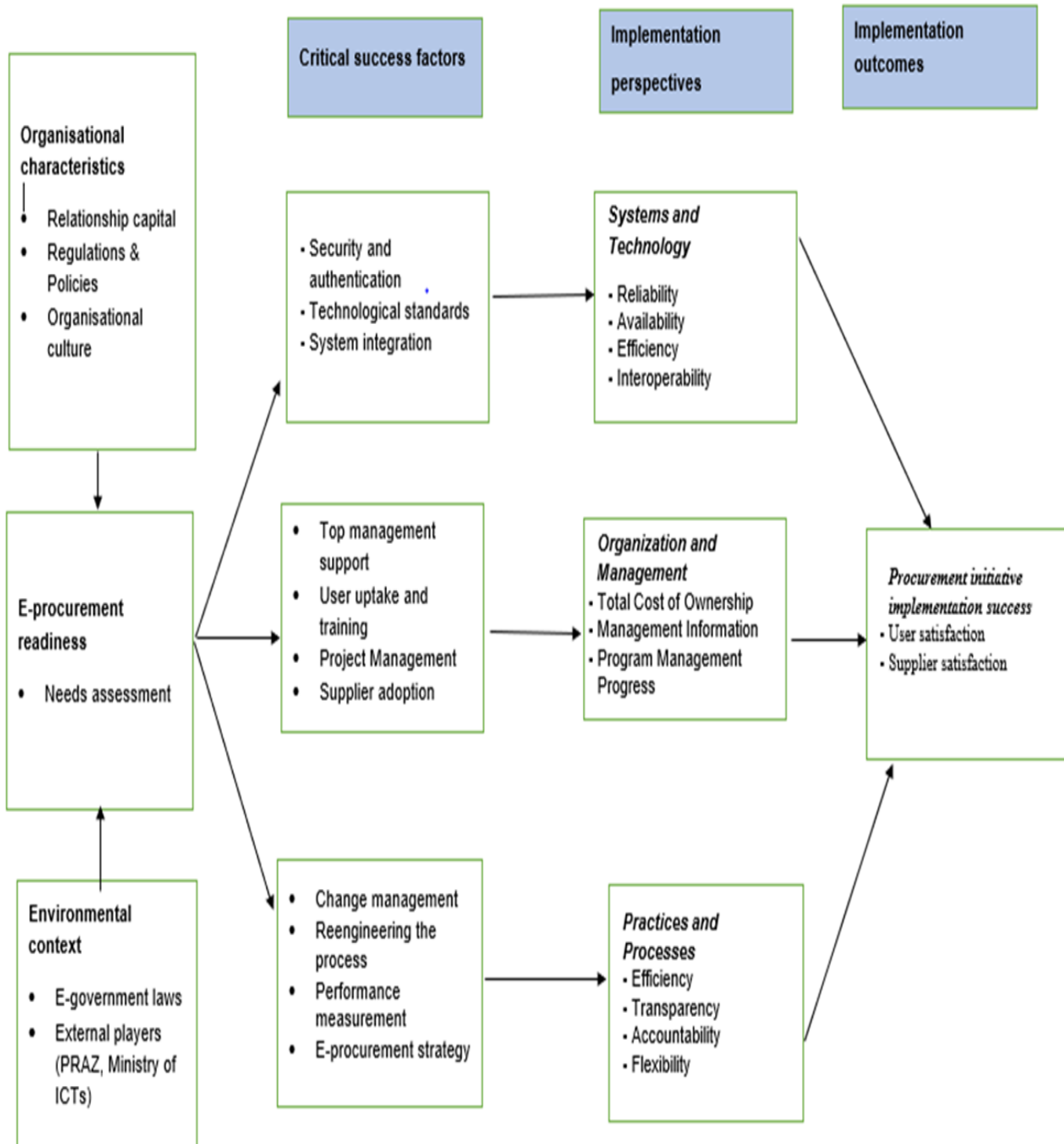


Figure 6:4 A framework for e-procurement implementation in local government

In consideration of research findings this study recommends the above framework to guide e-procurement implementation. The e-procurement implementation framework was influenced by Vaidya *et al.* (2006) 's critical success model for e-procurement implementation. In extending the existing model by Vaidya *et al.* (2006) the study adopts the e-readiness assessment factors and organisational characteristics and links them with critical success factors to illustrate their implications on e-procurement implementation outcomes. In doing so the model is augmented and the effect of both external and internal organisational characteristics of an organization are taken into consideration as preceding factors for the implementation process. As indicated on Figure 6.4, the critical success factors suggested in Vaidya *et al.* (2006) 's model are the key part of the proposed framework as they influence several e-procurement perspectives which determines e-procurement outcomes. The e-procurement readiness, organisational characteristics and environmental context themes were derived from literature review and study empirical findings specific to local government context as well as the HCC. The themes will be discussed below.

6.4.1 E-procurement readiness assessment

An e-readiness assessment is critical before undertaking e-procurement systems as it helps to gauge the level of preparedness. This can be done by undertaking a needs assessment exercise which will help HCC to understand the specific requirements and expectations of users regarding the e-procurement system. A needs assessment will help the HCC to derive system integration needs of the existing organisational information systems, change management needs, training needs or capacity development needs, human resources need, leadership needs, compatibility needs, security and authentication needs among others. As a result, this will help the HCC management to ascertain the extent to which the organisation is ready to adopt an e-procurement system. This exercise will help the generations of courses of action for successful e-procurement implementation as shall be discussed below.

6.4.2 Organisational characteristics

The organisation characteristics theme includes organisational culture, relationship capital and organisational policies and regulations. On relationship capital the HCC

need to leverage on its existing partnerships and harness new partnerships and collaboration to support e-procurement implementation. Implementation of e-procurement system is a cumbersome task for an entity like the HCC with limited funds as well as human resources skills, therefore the HCC must develop twinning relationships with cities that have successfully adopted e-procurement. The HCC has active bilateral relations with Nottingham City (UK), Cincinnati City (Ohio, United States), and Munich City (Germany). Through the relationship with Munich Harare is now into a tripartite arrangement with e-Thekwini Metropolitan Municipality (South Africa)” (City of Harare, 2023). From the discussion in Chapter 4 of this study the City of Nottinghamshire and eThekwini successfully developed electronic systems that allow several functions to be done using an online platform. The HCC can capitalise on its existing partnerships with the private sector to invest in and provide adequate technological infrastructure for instance internet and broadband service providers Telone and Econet Wireless.

In terms of organisational culture, the management at HCC ought to craft and implement strategies to engender positive attitudes towards the e-procurement system by users. The study established that culture is significant factor towards the implementation of an e-procurement implementation as is determines the level of e-procurement adoption users. Additionally, there is need to align organisational plans (staffing plans, employee development policy, ICT or technology policy) with the e-procurement implementation mandate. As established from the study such alignment will promote compatibility of organisational plans and policies with the e-procurement systems which enhance operational effectiveness.

6.4.3 External environment

The external environment (national ICT, e-government laws and policies) has a bearing upon the implementation of e-procurement system at HCC. The HCC ought to craft an e-procurement implementation strategy guided by the general e-government legislative framework in Zimbabwe. This strategy should comply with the set guidelines and instructions for public procurement indicated in the PPDPA Of 2018 and other government documents. The e-procurement system that the HCC acquires also need to be in line with the set standards as stipulated in government regulations and e-procurement implementation circular. The HCC engage PRAZ to

gain insights on how best the HCC can position itself to successfully implement an e-procurement system. The council needs to continuously lobby for the update of e-government legislation and the promulgation of e-procurement policies by the Ministry of ICT and Couriers Services and PRAZ.

6.4.4 Critical success factors

The critical factor's theme indicates the considerations for the implementation of e-procurement systems for the HCC which influence the implementation perspectives (performance effectiveness and sustenance) of e-procurement. In terms of technology, the HCC should ensure that adequate system security measures are in place to ensure procurement data is safe. In addition, there is need to integrate the existing information systems with the new e-procurement system which will afford seamless transmission of data. The HCC management need to acquire ICTs supporting infrastructure with the standards that are in line with e-procurement system standards. The HCC senior management need to support e-procurement initiatives through availing funding, ensuring end users training, ensuring a project governance framework (project management) is in place as well as encouraging supplier adoption for instance offering training. The HCC need to craft an e-procurement strategy that sets out the goals and objectives for e-procurement implementation. It also has to apply continuous monitoring and evaluation on the performance of the e-procurement system by using key performance indicators.

6.5 RECOMMENDATIONS FOR FUTURE STUDY

The Industrial Revolution commonly dubbed 4.0 continues to push significant changes in modern supply chains, business models, and business processes (Malvadis & Folinas, 2022:3). Chan and Owusu (2022) assert that purchasing departments have taken their first steps in embracing industry 4.0 tools like the Internet of Things and blockchain technologies in executing procurement functions for indirect goods and services, which is already a good beginning to start developing the processes even further. Therefore, further studies can focus on examining government readiness levels, determinant success factors, and challenges for procurement modernisation within the 4.0 industry. This can inform the generation of a framework for e-procurement implementation within the Industry 4.0 era.

This study recommends an examination of e-procurement implementation from the suppliers' side or a comparative analysis between suppliers' perceptions and buyers organisation's perceptions. From the literature findings, it has been established that research gaps exist in focusing perspectives of suppliers in terms of determinant factors and challenges towards implementation. Malodia *et al.* (2021) underscore that one common limitation of the existing literature on digital procurement is a strong, if not exclusive, focus on the buying firm, thus widely neglecting supply chain partners' ability or inability to embrace and use new digital technologies in their interactions with buying firms. Supplier readiness and adoption is a critical determinant for e-procurement implementation, therefore taking further research from that same perspective will ensure that supplier considerations are considered in e-government strategy. Moreso, procurement, by its nature, is a function that spans firm boundaries and connects organisations. Therefore, future studies can collaboratively investigate supplier implementation perspectives and buyer's implementation perspectives. Such research can help in deriving key factors that influence supplier adoption and implementation of e-procurement systems.

E-government procurement is a catch-all term incorporating many aspects of electronically-assisted procurement which include e-tendering, e-ordering, and online auction among others. While this study is exploratory and realistically examines the key variables for e-procurement implementation in local government, it is equally imperative that future studies explore the efficacy of a specific type of e-procurement rather than examining or generalising e-procurement as a whole since e-procurement involves several processes. Secondly, most developing countries have not implemented e-procurements beyond the transactional stages (websites) since it has been a challenge. Therefore, to improve the applicability of findings it is proper to examine the implementation of at least one e-procurement tool within a certain e-government setup. This can contribute to further widening the literature on e-procurement focusing on the developing country context.

The study revealed key variables for e-procurement implementation, the proposed framework's efficacy can be examined through a comparative study of two local government entities implementing a decentralised e-procurement system to

determine if the study findings can be generalised across the local government sector.

6. 6 CONTRIBUTIONS TO THE ADVANCEMENT OF NEW KNOWLEDGE

The findings of this study contribute to the generation and advancement of new knowledge in e-government studies and supply chain management studies.

6.6.1 Contribution to e-government studies

This study also contributes to expanding knowledge on the implementation of ICT innovations in the public sector. Especially the sparse literature on e-government across the developing country context., many studies do not consider the unique context in exploring e-government initiatives (Heeks, 2003, Mawela *et al.*, 2017). However, e-procurement adoption and implementation have not yet been translated into practice adequately especially in developing countries (Neupane *et al.*, 2014). The research's findings will add to e-government as well as public e-procurement research by strengthening existing understandings of e-government implementation activities with empirical evidence from a developing country. Secondly, e-procurement is an emerging concept in e-government studies, whose use has not been thoroughly investigated in the context of developing countries due to implementation failure. Chen *et al.* (2021) citing Pollitt (2011) assert that there is a growing agreement that the technological change within public administration is an outcome of the complex interactions of a wide range of determinants. Hence, this study investigates how key variables like organisational characteristics, e-readiness and the external environment influence the implementation and performance effectiveness of e-government policy like e-procurement. Hardy and Williams (2008:156) underscore that previous literature on e-procurement provide insufficient evidence on how e-procurement policy can be implemented successfully. This current study contributes to e-government studies by generating a framework which brings to the fore key determinants for e-procurement implementation and their role in shaping implementation outcomes.

6.6.2 Contribution to Supply Chain Management

E-procurement is perceived to be a new phenomenon, however, its capability to reinvent and revolutionise the supply chain networks makes it a priority for suppliers, buyers, and the government (Masudin *et al.*, 2021). Hence, this study is prescriptive in providing critical insights on how best to incorporate an e-procurement system across supply chain networks. It is most importantly informative for buyers (usually government is the biggest purchaser) to optimise e-procurement use through consideration of determinant factors for e-procurement system operational effectiveness. Further, it provides critical e-readiness indicators from the buyer's perspective creating a foundation for e-procurement implementation across the supply chain (Chen, 2019). This study also contributes to discussions on continuous improvement and innovation in supply chain management by exploring the challenges and best practices associated with the adoption and implementation of e-procurement systems in supply chain management. In general, the study sheds light on the role of technology in enhancing buyer-supplier relationship management while also enhancing supply chain agility in the current volatile business environment (Makudza *et al.*, 2022).

6.7 CONCLUDING REMARKS

This research study sought to investigate e-procurement implementation in the Harare City Council firstly by examining the relationship of e-procurement readiness levels on and prospects of e-procurement implementation. This was achieved by identifying e-procurement readiness indicators across the city council and evaluating the extent to which they have contributed to the operationalisation of e-procurement. Secondly the study sought to investigate determinant factors for e-procurement implementation. This was achieved by undertaking a review of e-procurement implementation experiences among case studies drawn from various countries, which helped in drawing critical steps undertaken to implement e-procurement system. The researcher also inquired upon expert views and internal users to derive critical factors for e-procurement operational effectiveness and sustenance in a local government set up. Thirdly the study sought to examine challenges towards e-procurement implementation at the HCC by evaluating the implications of external and internal barriers towards e-procurement implementation. From the study

findings, it can be concluded that implementation of e-procurement at HCC can be attained by adopting the recommendations proffered for the study.

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8.0 APPENDICES

8.1 APPENDIX 1: PROPOSAL APPROVAL LETTER



T MOYO
40076202

Research title as approved by the scientific committee of the Afrocentric Governance of Public Affairs Focus Area:

A Framework for the implementation of E- Procurement System in Local Government: Case of Harare City Council

Dear T MOYO

This letter serves to confirm that your Masters research proposal has been approved by the Humanities Research Management Committee.

The ethics application is referred to the:

* Research Ethics Committee- BaSSREC: _X_.

* Research Ethics Committee-HHREC: _____.

For the details on the procedure that you will have to follow to submit to the Ethics Committee contact Ms Chantele Bloem at Chantele.Bloem@nwu.ac.za / 018 285 2583. When your ethics application has been successfully completed and approved please inform her as the responsible person.

Yours Truly,

Costa Hofisi
Research Director

8.2 APPENDIX 2: GATE KEEPERS APPROVAL LETTERS



03 October 2022

PRAZ/B/1/1

Ms Tafadzwa Moyo
Northwest University
P. O. Box 1171
VANDERBILJPARK
South Africa

RE: CONSENT LETTER AUTHORISING TAFADZWA MOYO (PHD STUDENT) TO CONDUCT RESEARCH AT PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE (PRAZ)

This letter serves to confirm that we consent to your request to interview PRAZ ICT Director as part of your research study titled “A Framework for the Implementation of e-procurement System in Local Government: Case of Harare City Council”.

PRAZ has no financial obligation and neither shall it render any further assistance in the conduct of the research. The research should not be used for any other purpose other than the study purpose specified.

We wish you success in your doctoral studies.

C. Ruswa
Chief Executive Officer



PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE

- 9th Floor, Pearl House, 61 Samora Machel Avenue
- P.O. Box CY 408 Causeway, Harare, Zimbabwe
- reception@praz.org.zw/ enquiries@praz.org.zw
- +263 (242) 752 539-42, 753 132, 790 080
- +263 716 800 036
- VOIP: +263 8688 003 491/2
- www.praz.org.zw

Mrs V. Nyemba (Chairperson), Eng C. Nyachowe (Vice Chairperson), Mr C. Ruswa (Chief Executive Officer), Ms N. Moyo, Rtd Col J. Mhakyakora, Rtd Maj Dr. T.U. Wushe,
Mrs R. Nhamo, Ms O. Murasi, Air Commodore W. Chikukwa, Rtd Brigadier - General C.M. Gora

CG



CITY OF HARARE

HUMAN CAPITAL DEPARTMENT
TOWN HOUSE, HARARE, ZIMBABWE
POST OFFICE BOX 990
TELEPHONE 752979 / 753000

EMAIL: hrd@hararecity.co.zw
ADDRESS ALL CORRESPONDENCE TO HUMAN CAPITAL DIRECTOR

North West University
P.O.Box 1174
Vanderbiji Park

30 August 2022

RE: AUTHORITY TO UNDERTAKE RESEARCH: TAFADZWA MOYO

This letter serves as authority for to undertake a research survey on the topic: **"A FRAME WORK FOR THE IMPLEMENTATION OF E-PROCUREMENT SYSTEM IN LOCAL GOVERNMENT". A CASE OF HARARE CITY COUNCIL.**

The City of Harare has no financial obligation and neither shall it render any further assistance in the conduct of the research. The researcher is however requested to avail a soft and hard copy of the research to the undersigned so that residents of Harare can benefit out of it. The research should not be used for any other purpose other than the study purpose specified.

Yours faithfully



MR B. MATENGARUFU
ACTING HUMAN CAPITAL DIRECTOR

Harare to achieve a **WORLD CLASS CITY STATUS** by 2025

**MINISTRY OF
INFORMATION COMMUNICATION TECHNOLOGY, POSTAL & COURIER SERVICES**

TELEPHONE: +263-4-763020/4
FAX: +263-4-706446



MINISTRY OF INFORMATION
COMMUNICATION TECHNOLOGY, POSTAL
& COURIER SERVICES
PRIVATE BAG CY419, CAUSEWAY
8TH FLOOR, BANK CHAMBERS BUILDING
76 SAMORA MACHEL AVE
HARARE

Ref: Std PHD//// T. Moyo

04 October 2022

Tafadzwa Moyo
PHD Student

Northwest University
P.O Box 1174 Vanderbiljpark
South Africa

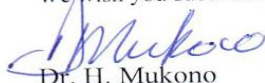
**RE: AUTHORITY TO CONDUCT REASERACH WITHIN THE MINISTRY OF ICT,
POSTAL AND COURIER SERVICES: TAFADZWA MOYO: PHD STUDENT**

This letter serves to confirm that we consent to your request to interview officials from our organisation as part of your research study titled "A framework for the implementation of e-procurement system in local government: Case of Harare City Council".

The Ministry of ICT, Postal & Courier Services has no financial obligation and neither shall it render any further assistance in the conduct of the research. We advise you to maintain confidentiality in during the research period and any breach thereto, the organisation may under take legal action against you.

The research should not be used for any other purpose other than the study purpose specified.

We wish you success in your doctoral studies



Dr. H. Mukono

For: **Secretary for Information Communication Technology, Postal and
Courier Services**

CC: *Director Finance, Administration and Human Resource*



**MINISTRY OF
INFORMATION COMMUNICATION TECHNOLOGY, POSTAL & COURIER SERVICES**

TELEPHONE: +263-4-763020/4
FAX: +263-4-706446



Zimbabwe

MINISTRY OF INFORMATION
COMMUNICATION TECHNOLOGY, POSTAL
& COURIER SERVICES
PRIVATE BAG CY419, CAUSEWAY
8TH FLOOR, BANK CHAMBERS BUILDING
76 SAMORA MACHEL AVE
HARARE

Ref: Std PHD//// T. Moyo

04 October 2022

Tafadzwa Moyo
PHD Student

Northwest University
P.O Box 1174 Vanderbiljpark
South Africa

**RE: AUTHORITY TO CONDUCT REASERACH WITHIN THE MINISTRY OF ICT,
POSTAL AND COURIER SERVICES: TAFADZWA MOYO: PHD STUDENT**

This letter serves to confirm that we consent to your request to interview officials from our organisation as part of your research study titled "A framework for the implementation of e-procurement system in local government: Case of Harare City Council".

The Ministry of ICT, Postal & Courier Services has no financial obligation and neither shall it render any further assistance in the conduct of the research. We advise you to maintain confidentiality in during the research period and any breach thereto, the organisation may under take legal action against you.

The research should not be used for any other purpose other than the study purpose specified.

We wish you success in your doctoral studies

Dr. H. Mukono

For: **Secretary for Information Communication Technology, Postal and
Courier Services**

CC:

Director Finance, Administration and Human Resource



8:3 APPENDIX 3: ETHICS APPROVAL



Private Bag X1 290, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Fax: 018 299-4910
Web: <http://www.nwu.ac.za>

Senate Committee for Research Ethics
Tel: 016 103 4446
Email: Feziwe.Mseleni@nwu.ac.za

15 November 2022

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Basic and Social Sciences Research Ethics Committee (BaSSREC)** on **28/09/2022**, the Basic and Social Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-SERC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: A Framework for the implementation of E- Procurement System in Local Government: Case of Harare City Council.																															
Study Leader/Supervisor (Principal Investigator)/Researcher: Prof C Hofisi																															
Student/Research Team: T Moyo-40076202																															
Ethics number:	<table border="1"> <tr> <td>N</td><td>W</td><td>U</td><td>-</td><td>0</td><td>1</td><td>0</td><td>4</td><td>7</td><td>-</td><td>2</td><td>2</td><td>-</td><td>A</td><td>7</td> </tr> <tr> <td colspan="3">Institution</td> <td></td> <td colspan="6">Study Number</td> <td>Year</td> <td colspan="4">Status</td> </tr> </table> <p><small>Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation</small></p>	N	W	U	-	0	1	0	4	7	-	2	2	-	A	7	Institution				Study Number						Year	Status			
N	W	U	-	0	1	0	4	7	-	2	2	-	A	7																	
Institution				Study Number						Year	Status																				
Application Type: Single study																															
Commencement date: 03/10/2022	Risk: <table border="1"><tr><td>Minimal</td></tr></table>	Minimal																													
Minimal																															
Expiry date: 03/10/2023																															
Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.																															

Special in process conditions of the research for approval (if applicable):

<p>General conditions:</p> <p><i>While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:</i></p> <ul style="list-style-type: none"> • <i>The study leader/supervisor (principal investigator)/researcher must report in the prescribed format to the BaSSREC:</i> <ul style="list-style-type: none"> - <i>annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and</i> - <i>without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.</i> • <i>The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the BaSSREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.</i> • <i>Annually a number of studies may be randomly selected for an external audit.</i> • <i>The date of approval indicates the first date that the study may be started.</i>
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h

- *In the interest of ethical responsibility, the NWU-SCRE and BaSSREC reserves the right to:*
 - *request access to any information or data at any time during the course or after completion of the study;*
 - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
 - *withdraw or postpone approval if:*
 - *any unethical principles or practices of the study are revealed or suspected;*
 - *it becomes apparent that any relevant information was withheld from the BaSSREC or that information has been false or misrepresented;*
 - *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
 - *new institutional rules, national legislation or international conventions deem it necessary.*
- *BaSSREC can be contacted for further information or any report templates via BaSSREC-Admin@nwu.ac.za.*

The BaSSREC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the BaSSREC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely



Prof E. Idemudia

Chairperson NWU Basic and Social Sciences Research Ethics Committee

Original details: (22351930) C:\Users\A22351930\Desktop\ETHICS APPROVAL LETTER OF STUDY.docm
8 November 2018
File reference: 9.1.5.4.2

8.4 APPENDIX 4: TITLE REGISTRATION



Private Bag X6001, Potchefstroom
South Africa, 2520
Tel: (018) 299-1111/2222
Web: <http://www.nwu.ac.za>

Higher Degree Administration
Tel: 0169103033
Email: 22989064@nwu.ac.za
Enquiries: MISS J WILSON
22 May 2023

Dear MS MOYO
University number: 40076202

REGISTRATION OF TITLE

At the recent meeting of a relevant committee meeting of the NWU Faculty of Humanities your title was approved as follows:

A framework for the implementation of an e-procurement system in local government: A case study of Harare City Council

The above-mentioned title may under **no circumstances** be changed without consulting your supervisor and obtaining the approval from the relevant committee in the mentioned faculty, in regard of which this office must be furnished with the latest approved title.

In the instance that you wish to submit for examination, please inform your supervisor/promoter accordingly. Also ensure *absolute adherence to the prescripts of A Rule 4.10 for the submission of a Master's study and of A Rule 5.10 for the submission of Doctoral thesis.*

Upon approval of your supervisor/promoter, please ensure that the Notice of Submission form is submitted THREE months in advance to this office.

Note that the Notice of Submission form is available on the [NWU DIY portal](#).

For ease of reference, use the following resources:

- [General Academic Rules \(A-reels\)](#);
- [Manual for Higher Degree Studies](#);
- [Policy on academic integrity](#);
- [Forms that support the study guidance process](#);

We wish you a pleasant and successful period of study.
Kind regards

Registrar



2023/05/22

Reference number: 7.1.1.1.1.2



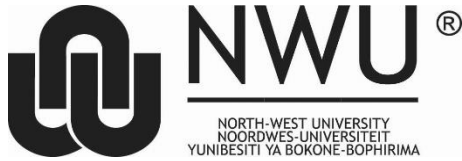
NWU®
NORTH WEST UNIVERSITY
UNIBESITHI YA BOKONE-BOPHIRWA

Private Bag X6001, Potchefstroom
South Africa, 2520

Tel: (018) 299-1111/2222
Web: <http://www.nwu.ac.za>

Reference number: 7.1.1.1.2

8.5 APPENDIX:5 INFORMATION AND CONSENT FORM



Basic and Social Sciences Research Ethics Committee (BaSSREC)

DATE: 04/10/2022

BaSSREC Authorisation

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

Title of the research project	A framework for the implementation of e-procurement system in local government: A case of Harare City Council.
Ethics number	NWU-01047-22-S7
Principal investigator	Tafadzwa Moyo
Student number	40076202
Address	10543 Budiro 5A Harare
Email address	moyotaffy@gmail.com
Contact number	+26378 2125568

You are being invited to take part in a research project that forms part of my PHD studies in Public Management and Governance. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this

project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you could be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part. Prior to publication of the study's results (or the point that publication is in process), you may also withdraw the data you generate.

This study has been approved by the Basic Social Sciences Research Ethics Committee (BaSSREC) of the Faculty of Humanities of the North-West University (NWU.....) and will be conducted according to the ethical guidelines and principles of the international Singapore Statement on Research Integrity (2010) and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records to make sure that we (the researchers) are conducting research in an ethical manner.

What is this research study all about?

- This study is an investigation of a framework for e-procurement system implementation in local government the case of Harare City Council and will involve the use of key informant interviews and document search.
- The researcher has been trained to use the methods mentioned in the previous sentence.
- Thirty (30) participants will be included in this study.
- The objectives of this research are:
 - 1) What are the key design considerations of a framework for e-procurement implementation for local government?
 - 2) What are the key concepts, theories or models relevant to e- procurement available in literature?
 - 3) What is the relationship between e-procurement readiness levels and prospects of e-procurement implementation at Harare City Council?
 - 4) What are the factors that influence the design, development and implementation of a framework for enhancing e-procurement implementation towards effective service delivery in local government?
 - 5) What are the challenges being faced by Harare City Council in the implementation of its e-procurement system?

Why have you been invited to participate?

You have been invited to participate because

- You are an official who directly deals with procurement procedures and implementation of e-government projects or

- You are a Harare City Council employee likely to be affected with e-procurement implementation or
- You are an official /academic personal who have knowledge and interest in e-government procurement.

You have also complied with the following inclusion criteria

You are an HCC, PRAZ or Ministry of ICT Postal and Courier Services official who have more than 1 year working experience in your positions or

You have at least higher tertiary education qualification or

You have knowledge and experience in e-government project implementation or

You are an HCC service delivery recipient.

You will be excluded if

You are Harare City council employee who will not be affected directly with e-procurement implementation.

You have less than 1 year working experience at your position in your organisation.

You are not an official with at least a tertiary education qualification.

You have no experience and knowledge in e-government project implementation.

What will your responsibilities be?

- You will be invited to participate in the noted study by answering all the questions indicated on the interview sheet.
- You will have 10 days upon the day you receive the invitation letter to indicate whether you would be willing to participate
- You will be requested to sign this Informed Consent Statement before the commencement of the study.

Will you benefit from taking part in this research?

- There are no direct benefits in participating in the study
- The indirect benefit will be contribution to knowledge generation through recommending strategies to spearhead e-procurement implementation in local government.

Are there risks involved in your taking part in this research and how will these be managed?

The possible risks in this study, and how these will be managed, are summarised in the table below:

Possible risk	Mitigation strategy
COVID 19 risk during face-to-face interviews.	<p>Due to the potential of Covid-19 infection, the researcher will observe the following rules during in-person/face-to-face data collection:</p> <ul style="list-style-type: none"> • If the current Covid-19 restriction levels do not allow for such in-person meetings, the interviews will be done through telephone. • That all persons wear a three-ply mask throughout the interview. • That the researcher takes the temperature of the participants before the start of the interview. If this is too high, then you will not be allowed to participate. • That hand-sanitizer (with 70% alcohol-content) be used before, during and after the interview. • That social-distancing of 1.5-2 meters be observed between all persons before, during and after the interview. • If the participants do not have a three-ply mask or hand-sanitizer, this will be provided cost-free by the researcher.
Tiredness and discomfort.	Comfort breaks of 10 minutes.
Lack of privacy and comfort during interviews due to repetition of some questions to seek clarity by the researcher	<p>This will be addressed by ensuring that the participant is allowed to respond to questions in the best manner she/he can.</p> <p>For participants who share office space with colleague/s a request will be made to conduct interviews in unoccupied office spaces, boardrooms or an alternative location where the participant feel comfortable.</p>

- *However, we do believe that the benefits to you and to science (as noted in the previous section) outweigh the risks we have listed. If you disagree, then please feel free not to participate in this study. We will respect your decision.*
- *Should we learn, in the course of the research, that someone is harming you, or that you are intending to harm someone, then we must tell someone who can help you/warn the person you are intending to harm.*

Who will have access to the data?

The following procedures will be observed in line with the Protection of Personal Information Act (POPIA):

Principle	How will this be done?	When will this be done?
Anonymity	Anonymity will be ensured as the researcher will assign a fictitious name/code to you before the interview starts. Only this name will be used in the research process.	Before the interview commence. During data analysis.
Confidentiality	Confidentiality will include not using the participants' names or any identifying information in the preparation of the research report. Hence code names/pseudonyms will be used. The researcher will not disclose any information gained from an interviewee deliberately or accidentally in ways that might identify an individual, organisation and location.	During entire process of fieldwork and after the fieldwork has been completed. During analysis and the write-up of findings. During the reporting of findings. During the publication of findings in the form of articles, books, conference proceedings, etc.
De-identification of data	All identifiable personal information will be de-identified to ensure that no information identifies any participants, organisations and locations.	After the fieldwork has been completed. After you, as participant, has signed-off on the interview transcripts/responses/any other relevant information sent to you to check. Before data analysis and the write-

		up of findings start.
Data storage	<p>All data collected for the purpose of the research will be stored safely in electronic format/hardcopy format for a period of five years after which it will be destroyed.</p> <p>The primary investigator will ensure that hard copy (printed) data or notes are safely locked away in an office safe which requires a pin code to access. Electronic data will be stored in a password-protected external hard drive or flash disk. Electronic data will also be stored in Google drive as back up storage. At the analysis stage, as will be the case throughout, the use of coding will reinforce participants' non-identification, hence upholding the assurance of confidentiality and anonymity.</p>	<p>During the fieldwork and after the fieldwork has been completed</p> <p>During analysis and the write-up of findings.</p> <p>During the reporting of findings.</p> <p>During the publication of findings in the form of articles, books, conference proceedings, etc.</p>
Privacy	Privacy will be ensured by not probing unnecessarily if you do not wish to discuss particular matters.	During the fieldwork and during follow-up fieldwork.
Transcription/coding of data	<p>I will not use a transcriber for the purpose of the transcripts after the interview.</p> <p>I will not use a statistician/coder for the purpose of the transcripts after the interview.</p>	<p>The primary investigator will be responsible for transcribing the data. Therefore, no other person will have access to the data.</p> <p>The primary investigator will be required to sign a NWU Confidentiality Agreement before the study commences.</p> <p>A language editor will assist with language editing.</p> <p>This person will be responsible for transcribing the data. Therefore, no other person will have access to the</p>

		data. This person will be required to sign a NWU Confidentiality Agreement before the study commences.
Translation/interpreter services	I will not use a <i>translator/interpreter</i> for the purpose of the interviews/explaining the informed consent	

Collection of only relevant personal information:

Collection of only relevant personal information	I, the principal investigator, will only collect personal biographical and opinion-related data about the topic I am studying.	The current position of the participant. The number of years of experience in that position. The number of years of experience in that sector.

What will happen to the data?

The data from this study will be reported in the following ways:

- 1) Article publications
- 2) Conference proceedings
- 3) Book chapters

In all of this reporting, you will not be personally identified. This means that the reporting will not include your name or details that will help others to know that you participated.

This is a once-off study, so the data will not be re-used.

Will you be paid/compensated to take part in this study and are there any costs involved?

You will not be paid to take part in this study. There will not be travelling costs as the primary investigator will visit your work locations for the interview sessions. For telephone interviews, the researcher will incur the costs as she is the one who will initiate the calls.

How will you know about the findings?

- The general findings of the research will be shared with you, if you are interested you can contact the researcher. An electronic copy of the thesis and research report will be shared with the Harare City Council and Procurement Regulatory Authority of Zimbabwe; interested parties can access them as well.
- If you would like feedback on your personal results, you can contact the researcher directly through email.

Is there anything else that you should know or do?

- You can contact the researcher at +263782125568 and email at moyotaffy@gmail.com or my supervisor at costa.hofisi@nwu.ac.za if you have any further queries or encounter any problems.
- You can contact the chair of the Basic Social Sciences Research Ethics Committee (Prof Erharbor Idemudia) at 018 389 2899 or Erharbor.Idemudia@nwu.ac.za if you have any concerns or complaints that have not been adequately addressed by the researcher.
- You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I _____ agree to take part in a research study entitled: "...". (*Apply to your study*)

I declare that:

- I provide *informed consent*.
 - Thus, I have read and understood this information and consent form and it is written in a language with which I am fluent and comfortable.
 - Thus, I have had a chance to ask questions to both the person obtaining consent, as well as the researcher (if this is a different person), and all my questions have been adequately answered.
- I provide *voluntary consent*.
 - Thus, I understand that taking part in this study is voluntary and I have not been pressurised to take part.
 - Thus, I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
 - Thus, I am aware of the fact that I may request that the researcher does not continue with said recording if I request it.

- I provide *specific consent*.
 - Thus, I understand that what I contribute (what I report/say/write/draw/produce visually) could be reproduced publically and/or quoted, but without reference to my personal identity.
 - I provide *specific consent*. Thus, I consent to an audio and/or audio-visual recording of the ... (*Apply to your study*).

Signed at (*place*) _____ on (*date*) _____ 2022 _____

 Signature of participant Signature of witness

- You may contact me again Yes No
- I would like a summary of the findings of this research Yes No
- I would like feedback on my functioning/wellbeing as reflected

in the questionnaires I completed Yes No

The best way to reach me is:

Name & Surname: _____
 Postal Address: _____
 Email: _____
 Phone Number: _____
 Cell Phone Number: _____

In case the above details change, please contact the following person who knows me well and who does not live with me and who will help you to contact me:

Name & Surname: _____

Phone/ Cell Phone Number /Email: _____

Declaration by person obtaining consent (if not the researcher/primary investigator)

I (*name*) _____ declare that:

- I explained the information in this document to _____
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) _____ on (*date*) _____ 20 22 _____

Signature of person obtaining consent

Signature of witness

Declaration by researcher/primary investigator

I Tafadzwa Moyo _____ declare that:

- I explained the information in this document to _____
- I encouraged them to ask questions and took adequate time to answer them.
- I am satisfied that they adequately understand all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) _____ on (*date*) _____ 2022 _____

TMOYO

Signature of researcher

Signature of witness

Declaration by researcher and participant

Personal face-to-face interviews during Covid-19 restrictions (*if applicable*)

Additional declaration by participant in those instances where the participant requests to participate in a personal face-to-face semi-structured interview:

By signing below, I _____, acknowledge the following information related to the required measures regarding Covid-19:

I declare that:

- It is my personal choice and preference to participate in a personal face-to-face semi-structured interview with the researcher.
- This requires that I consent to the following strict measures to safeguard the personal health and safety of myself and that of the researcher/interviewer/primary investigator:
 - I consent to the researcher taking my temperature before the interview using a thermometer. Yes No
 - I confirm that my temperature measured at _____ degrees. Yes No
 - I consent to use the three-ply mask provided by the researcher. Yes No
 - I consent to wear the three-ply mask for the full duration of the interview.

Yes No

- I consent to the researcher sanitising the interview context using a sanitiser with an 80% alcohol content before the commencement of the interview. Yes No

- I consent to the researcher using a sanitiser with an 80% alcohol content before and during the interview if required. Yes No

Signed at (*place*) _____ on (*date*) _____ 2022 _____

Signature of participant

Signature of researcher

TMOYO

8:6 APPENDIX 6 INTERVIEW GUIDES

Interview Guide for the ICT Personnel, Harare City council

INTRODUCTION

My name is Tafadzwa Moyo, a student pursuing a Phd in Public Management and Governance at North West University Vaal Triangle campus. The primary objective of the study is to develop a framework design for e-procurement implementation to enhance procurement performance at Harare City Council. As the head of the ICT division/member of the ICT department, you are one of the key informants, therefore I kindly request for your assistance in answering the questions enclosed in this guide. The researcher assures that the information you will provide in this study will be used for academic purposes only and kept with utmost confidentiality. The interview will take at most 45 minutes and it is important to know that participation in this interview is voluntary. The informed consent form is provided for your consideration.

Your participation will be greatly appreciated.

Questions

- 1) What do you understand by the term e-procurement system?
- 2) In your view, is the Harare city Council ready to adopt electronic procurement?
- 3) What steps have been taken to effect e-government procurement implementation at Harare City Council?
- 4) In your view, are these steps adequate for effective e-procurement systems implementation?
- 5) What are the critical factors for successful e-procurement implementation in an organisation?
- 6) How do the above factors influence e-procurement system performance within an organisation?
- 7) Do the governance arrangements in place for e-government support for effective e-procurement implementation at HCC?
- 8) What challenges are being faced towards the transition to e- government procurement system for your organisation?
- 9) What measures should be adopted to spearhead the implementation of e-government procurement systems for an organisation?
- 10) What role can other stakeholders (PRAZ, Ministry of ICT) play in promoting the implementation of e-procurement systems in local government?

The End Thank You!

Interview schedule for a head of departments for Harare City Council

INTRODUCTION

Name: Tafadzwa Moyo

Programme: PhD Public Management and Governance

Title: A framework for the implementation of e-procurement system in local government: A case of Harare City Council.

Aim: To design a framework to guide e-procurement implementation at Harare City Council

I kindly request for your assistance in answering the questions enclosed in this guide. The researcher assures that the information you will provide in this study will be used for academic purposes only and kept with utmost confidentiality. The interview will take at most 45 minutes and it is important to know that participation in this interview is voluntary. The informed consent form is provided for your consideration.

Biographical profile

1. Please indicate your department (i.e. job title).....
2. Please indicate your number of years' experience in this position
.....
3. Please indicate your highest level of education
.....

Questions

- 1) As the head of your department, what procurement related challenges are you facing currently?
- 2) How effective are the current procurement systems at Harare City Council towards achieving your departmental procurement goals?
- 3) What do you understand by the term e-procurement system?

- 4) In your department, do you use any ICTs or online tools to make request for goods and services? If so please indicate?
- 5) What strategies have been put in place to ensure e-procurement system user proficiency for your department?
- 6) How effective are these strategies in ensuring progress in e-procurement system implementation at Harare City Council?
- 7) What are the key factors to be considered for e-procurement system implementation and procurement effectiveness at Harare City Council?
- 8) In your own view, in what way does failure to implement e- procurement systems affect procurement activities of your department and service delivery at large?
- 9) Identify any challenges that your department is facing towards transitioning towards e-procurement systems?
- 10)What recommendations do you suggest to overcome these challenges?
- 11)What other reform strategies, besides e-procurement implementation, can the Harare City Council adopt to promote efficient procurement performance?

The End Thank You!

INTRODUCTION

Name: Tafadzwa Moyo

Programme: PhD Public Management and Governance

Title: A framework for the implementation of e-procurement system in local government: A case of Harare City Council.

Aim: To design a framework to guide e-procurement implementation at Harare City Council.

INTERVIEW SCHEDULE FOR ACADEMIC PERSONNEL

I kindly request for your assistance in answering the questions enclosed in this guide. The researcher assures that the information you will provide in this study will be used for academic purposes only and kept with utmost confidentiality. The interview will take at most 45 minutes and it is important to know that participation in this interview is voluntary. The informed consent form is provided for your consideration.

Your participation will be greatly appreciated.

Biographical profile

1. Please indicate your current position (i.e. job title)
2. Please indicate your number of years' of experience in this position
3. Please indicate your highest-level educational qualification.....

- 1) What is your understanding of the term e-procurement?
- 2) What are the key characteristics of an e-procurement system?
- 3) In your view, are local governments especially in developing countries ready for e-procurement system adoption?
- 4) In your view what are the key e-procurement readiness indicators that can be associated with local government?
- 5) How does these e-procurement indicators influence the prospects of e-procurement implementation in an organisation?
- 6) What factors need to be considered for effective implementation of e-government procurement in local government?
- 7) In your view does effective e-procurement implementation guarantee efficient service delivery for local governments?
- 8) What are the greatest barriers towards implementation of e-government procurement especially in local government context?
- 9) How can e-procurement projects be rolled out for successful system implementation?

10)What other strategies or reforms local governments can adopt to enhance public procurement performance?

The End Thank you!

INTRODUCTION

Name: Tafadzwa Moyo

Programme: PhD Public Management and Governance

Title: A framework for the implementation of e-procurement system in local government: A case of Harare City Council.

Aim: To design a framework to guide e-procurement implementation at Harare City Council.

INTERVIEW SCHEDULE FOR PRAZ AND MINISTRY OF ICT OFFICIALS

I kindly request for your assistance in answering the questions enclosed in this guide. The researcher assures that the information you will provide in this study will be used for academic purposes only and kept with utmost confidentiality. The interview will take at most 45 minutes and it is important to know that participation in this interview is voluntary. The informed consent form is provided for your consideration.

Biographical profile

1. Please indicate your current position (i.e. job title).....

2. Please indicate your number of years' experience in this position

3. Please indicate your highest level of educational qualification

- 1) In your view, what do you understand by the term e-procurement system?
- 2) What are key the attributes for an e-government procurement system?
- 3) What is the state of e- government procurement system implementation in local government in Zimbabwe?
- 4) What strategies, processes and systems have your organisation taken to effect the e-procurement strategy in government entities and agencies?

- 5) How effective are these strategies, processes and systems in steering progress of e-procurement system implementation in local government?
- 6) In your view what steps need to be taken by local government entities to effect implementation of e-procurement systems for effective service delivery?
- 7) Identify policies and legislative frameworks for e-procurement implementation for the public sector in Zimbabwe?
- 8) How effective are the current policies and legislative framework in supporting e-procurement systems implementation in government departments and entities in Zimbabwe?
- 9) What challenges are faced in implementing e-government procurement projects in the Zimbabwean local government system?
- 10) What solutions can you recommend to address the above challenges?
- 11) Besides e-procurement systems, what other reforms can be adopted to promote efficient public procurement performance in local government?

The End Thank You!

INTRODUCTION

Name: Tafadzwa Moyo

Programme: PhD Public Management and Governance

Title: A framework for the implementation of e-procurement system in local government: A case of Harare City Council.

Aim: To design a framework to guide e-procurement implementation at Harare City Council

INTERVIEW GUIDE FOR COMBINED HARARE RESIDENTS' ASSOCIATION OFFICIAL

I kindly request for your assistance in answering the questions enclosed in this guide. The researcher assures that the information you will provide in this study will be used for academic purposes only and kept with utmost confidentiality. The interview will take at most 45 minutes and it is important to know that participation in this interview is voluntary. The informed consent form is provided for your consideration.

Please indicate your position

Please indicate your level of education.....

- 1) What do you understand by the term e-procurement?
- 2) What steps have the Harare City Council taken towards adoption of e-procurement?
- 3) What procurement related service delivery challenges does the Harare City Council face that warrant e-procurement adoption?
- 4) In your view how does the adoption of e-procurement improve the quality-of-service delivery in Harare City Council?
- 5) What challenges have hindered the Harare City Council from adopting e-procurement systems?
- 6) What other strategies can the Harare City Council adopt for effective procurement performance for efficient service delivery besides e-procurement?
- 7) What role does other stakeholder like PRAZ and the Ministry of ICT and Courier services have to play to drive e-procurement implementation

INTRODUCTION

Name: Tafadzwa Moyo

Programme: PhD Public Management and Governance

Title: A framework for the implementation of e-procurement system in local government: A case of Harare City Council.

Aim: To design a framework to guide e-procurement implementation at Harare City Council.

INTERVIEW SCHEDULE FOR PROCUREMENT PERSONNEL (PROCUREMENT MANAGEMENT UNIT, PROCUREMENT EVALUATION COMMITTEE AND PROCUREMENT MANAGERS)

I kindly request for your assistance in answering the questions enclosed in this guide. The researcher assures that the information you provide in this study will be used for academic purposes only and kept with utmost confidentiality. The interview will take at most 45 minutes and it is important to know that participation in this interview is voluntary. The informed consent form is provided for your consideration.

Biographical profile

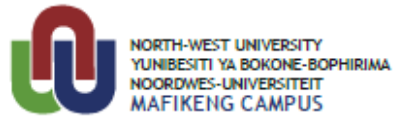
1. Please indicate your current position (i.e. job title).....
2. Please indicate your number of years' experience in this position
3. Please indicate your level of education.....

- 1) Identify any procurement functions or stages done using ICTs tools or across the web at the Harare City Council?
- 2) How effective are these tools towards promoting efficient procurement procedures and service delivery at Harare City Council?
- 3) What steps has the HCC taken to ensure that the Supply Chain department can effectively embrace e-procurement systems?
- 4) What are the major challenges faced towards performing procurement functions that warrant e- procurement adoption in your organisation?
- 5) In your view what is the relationship between e-procurement implementation and service delivery?
- 6) What factors are likely to influence e-procurement implementation progress at Harare City Council?
- 7) In your view, what are the challenges that hinder Harare City Council to implement e-procurement system?

- 8) What recommendations do you proffer to ensure effective e-procurement system implementation and use at Harare City Council?
- 9) What other strategies besides e-procurement, can be adopted to promote effective public procurement performance at HCC?

Thank you!

8.7 APPENDIX 7: LANGUAGE EDITING CONFIRMATION



Department of Academic Literacy
JR Moletsane Cell 0721841593

30 November 2023

CERTIFICATE OF EDITING A PHD THESIS

To whom it may concern

May this confirm that I have proofread and edited a PhD thesis by Mr T. Moyo titled: **A framework for the implementation of an e-procurement system in local government. A case study of Harare City Council.**

The candidate corrected the language errors identified. The document is now of an acceptable linguistic standard.

I thank you



.....
J.R. Moletsane (PhD)