UNIVERSITY OF LUSAKA

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CHALLENGES AND PROSPECTS OF E-GOVERNMENT IN LOCAL GOVERNMENT: A CASE STUDY OF SOUTHERN PROVINCE

A dissertation submitted to the University of Lusaka as part of the fulfilment of the requirements for the master's degree in Public Administration

By

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DECLARATION

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DEDICATION

To my daughter Ivana Lubinda

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I would like to thank God for granting me the opportunity, health, wisdom, and resources to pursue my studies, as well as for always coming through for me in all areas of my life.

Thanks to my employer and my programme for the opportunity to delve into the governance and local government world which accorded me the knowledge and insights into e-governance.

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LIST OF ABBREVIATIONS

AI: Artificial Intelligence

EGAM: Electronic Government Adoption Model

GIS: Geographic Information System

ICT: Information Communication Technology

IT: Information Technology

PPP: Public Private Partnership

TAM: Technology Acceptance Model

UN: United Nations

UNDP: United Nations Development Programme

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNZA: University of Zambia

WTO: World Trade Organization

ZICTA: Zambia Information and Communications Technology Authority

ABSTRACT

This study investigated the challenges and prospects of e-government implementation in local government in Zambia, with a focus on Southern province as a case study. The research examined three selected local authorities, namely: Livingstone City Council, Choma Municipal Council, and Pemba Town Council.

E-government is a transformative approach that leverages Information and Communication Technology (ICT) to enhance public service delivery, improve transparency, and foster citizen engagement. However, its adoption at the local government level faces multiple challenges including inadequate ICT infrastructure, financial constraints, limited human capital and ICT skills, resistance to change, cybersecurity risks, and regulatory challenges.

The study employed a mixed method approach, combining qualitative and quantitative, leaning mostly on the qualitative side. Primary data was collected through structured questionnaires and structured interviews using questionnaires as interview guides. Secondary data was gathered from policy documents, reports, and relevant literature. Thematic analysis was used for qualitative data interpretation, while descriptive statistics were applied to analyze quantitative responses.

From the literature, two theoretical frameworks; the Technology Acceptance Model (TAM) and the Electronic Government Adoption Model (EGAM), provided a framework for detailed analysis of the challenges whilst identifying potential opportunities for improvement.

The empirical review highlighted evidence from other studies which showed issues or challenges like limited ICT budget in the local authorities, inadequate ICT infrastructure and or gadgets in both councils and the community, low digital literacy levels, insufficient public knowledge and awareness, as well as other behavioural issues. Past studies from global examples show casing best practises such as lessons learned from Estonia and Korea were examined to show insights that could be used to take action in e-government implementation to yield better results.

The findings indicate that e-government adoption remains at an early stage, with limited implementation beyond bulk SMS billing notifications and the use of social media platforms. Key barriers include insufficient ICT investment, inadequate internet connectivity in rural areas, low public awareness, and digital illiteracy among citizens.

Despite these challenges, the study highlighted potential benefits such as improved service delivery, increased transparency, cost efficiencies, and enhanced citizen participation.

The research recommends targeted policy interventions, including increased investment in ICT infrastructure, digital literacy training programs for both government officials and citizens, enhanced stakeholder collaboration, and the establishment of clear regulatory frameworks to support e-government growth. Strengthening cybersecurity measures and streamlining digital governance policies are also vital for sustainable e-government implementation.

The study contributes to the academic discourse on digital governance by providing a detailed analysis of e-government challenges and opportunities in the local government context. If offers practical recommendations for overcoming barriers and leveraging digital governance to achieve efficient and transparent local government operations.

Keywords

E-government

Technology Acceptance Model (TAM)

Electronic Government Adoption Model (EGAM)

Digital Governance

Local Authority

1.1. CHAPTER 1: INTRODUCTION

1.2. Background

Digitalization has changed the landscape of public administration all over the world. According to the United Nations (2020) publication, e-government endeavours to enhance the efficiency, transparency and inclusivity of the governance process through leveraging on digital tools and systems. According to the World bank report (2021), in developing countries such as Zambia, the adoption of e-government is increasingly being recognized as a vital tool for national development, enabling improved service delivery, enhanced citizen participation, and economic growth. Its effective implementation however remains a big challenge especially at the local government level due to various challenges such as resource constraints, infrastructural limitations and organizational inertia. The infrastructural limitations, such as inadequate internet connectivity and unreliable power supply in many rural areas, hinder the effective utilization of e-government services. Moreover, organizational inertia, characterized by resistance to change and a lack of digital literacy among government officials, can impede the successful adoption and integration of e-government systems (Heeks, 2019).

To get a clearer understanding of the topic or concept of Electronic Government (e-government in short), it is basically the use of Information Communication Technologies (ICT) and its applications to integrate government processes and systems to provide public services and information to individuals and institutions using the internet (Civeleck, 2019). E-government services can be broadly categorized into four main types: Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Employee (G2E), and Government-to-Government (G2G) (United Nations, 2020).

In the Zambian context, E-government traces its origins back to the National ICT Policy established in 2006 (Government of the Republic of Zambia, 2006), a significant milestone that aimed to integrate information and communication technology across all sectors, including governance. This foundational policy paved the way for various initiatives designed to enhance the efficiency of government operations and elevate the quality of public service delivery. Notable examples include the Smart Zambia

program and the e-Government Master Plan (Government of the Republic of Zambia, 2021).

Further solidifying the legal framework for e-government, the Zambian government enacted the ICT Act, No.15 of 2009 (Government of the Republic of Zambia, 2009), providing a legal foundation for the development and utilization of ICTs. Subsequently, the Electronic Government Act, No. 41 of 2021 (Government of the Republic of Zambia, 2021), was enacted to enhance the management and promotion of digital government services. Recognizing the critical importance of cybersecurity, the Cyber Security and Cyber Crimes Act, No. 2 of 2021 (Government of the Republic of Zambia, 2021), was also passed to address cyber threats and protect sensitive data. Furthermore, the Data Protection Act, No. 3 of 2023 (Government of the Republic of Zambia, 2023), established the Office of the Data Protection Commissioner to regulate the collection, use, transmission, and protection of personal data in line with international best practices.

The successful implementation of e-government initiatives in the Southern province of Zambia still faces several challenges. A primary obstacle lies in the inadequate Information and Communications Technology (ICT) infrastructure, particularly in rural regions, where limited connectivity significantly hinders access to online services (World Bank, 2021). This is further compounded by financial constraints faced by the province, limiting the resources available for acquiring, maintaining, and upgrading the necessary technology (Government of the Republic of Zambia, 2021). In addition, the shortage of skilled personnel with the expertise to effectively manage, operate, and sustain e-government systems further exacerbates the status quo (Chileshe & Zulu, 2021).

Resistance to change, both cultural and organizational, presents another significant challenge. This resistance can manifest in various forms, such as skepticism towards new technologies, concerns about job security, and a lack of understanding regarding the benefits of e-government (Heeks, 2019). In the Zambian context, resistance may also stem from the perceived disruption of existing power structures and potential challenges to entrenched practices, including those that may have facilitated corruption in traditional, paper-based systems.

Another major challenge encountered in the implementation of e-government relates to coordination and collaboration among government agencies due to the failure to

embrace change with preference to working in silos (Chilembo and Tembo, 2020). This can create confusion and hinder efficient implementation.

Despite the challenges mentioned above, the future of e-governance in Southern Province still holds significant promise. The adoption of digital tools and systems presents an opportunity to transform the way public services are delivered, fostering greater citizen engagement and driving economic growth (World Bank, 2021). By embracing e-government, the province can streamline administrative processes, reducing the bureaucratic bottlenecks and delays that often frustrate citizens and businesses. This can lead to increased efficiency and effectiveness in revenue collection, while simultaneously expanding access to essential government services through online platforms (United Nations, 2020). Citizens could be empowered to conveniently obtain permits, licenses, and make tax or rates payments online, saving time and effort (Heeks, 2019).

This study examines the challenges and prospects of e-government implementation in local government within Southern Province, and drawing on the empirical evidence, the theoretical frameworks as well as the lessons from the global context of best practices, the study seeks to offer a detailed understanding of the factors that influences e-government adoption and effectiveness in the Southern Province region. The findings from this research endeavours to help contribute to the growing body of knowledge on e-governance or digital governance, and to offer actionable recommendations for policy makers, other practitioners and all stakeholders to enhance the implementation of e-governance in the Zambian local government system. By addressing the challenges and leveraging the opportunities of e-government, local authorities in Southern Province have the potential to transform public service delivery. This research shows the importance of strategic investments, stakeholder collaboration and stakeholder coherence in achieving the much-desired vision of e-governance and thus accomplishing or meeting the targets of the vison 2030.

Heeks (2006) emphasized the potential benefits of e-government which as mentioned, assist governance through leveraging ICTs to streamline administrative procedures, reduce bottlenecks in the bureaucratic systems, and improve service delivery.

As digital transformation continues to grow around the world, many countries including Zambia are more and more actively embracing the e-government initiatives as a way to address the longstanding challenges as well as to modernize the public sector.

Southern Province is a diverse region that is characterized by a dynamic interplay of urban and rural landscapes. It serves as a good case study for researching the challenges and potentials of e-government implementation at the local level. Local authorities in this province as with others across the country have the responsibility of delivering essential services to their districts, covering a wide range of functions such as waste management, issuance of permits and licences, property inspections, public health services, and all in all ensuring the sustainable development or economic growth of their districts. The successful or effective delivery of all the services is however usually constrained due to problems from the citations above such as operational inefficiencies, limited financial and human resources, and the persistent reliance on outdated and manual processes. The other bigger challenge is the inadequate information and communication technology (ICT), particularly in rural regions where there is very limited internet connectivity or even mobile network connectivity, hence the limited access to any potential online services. This is a great barrier to the use of e-government platforms and applications. The financial burden is also a great burden because it hinders or limits the acquiring of, maintenance and upgrading of the necessary technology.

Additionally, the issue of data security and privacy also greatly looms. In the absence of robust cybersecurity frameworks and measures to protect sensitive data, the risk of data breaches and cyber attacks increase greatly. This not only undermines the trust of citizens, but it also jeopardizes or risks the integrity and effectiveness of e-government services.

Despite the notable challenges outlined above, the future for e-government in Southern Province still holds significant promise. The increasing penetration of mobile and internet technologies across Zambia is creating a more conducive environment for the expansion of digital services. The Zambian government’s unwavering commitment to digital transformation as evidenced by the initiatives such as the Smart Zambia program, and the enactment of various ICT policies alluded to earlier provide a supportive policy framework that can drive the advancement of e-government initiatives.

Furthermore, examining the success of other countries like Estonia and South Korea can provide valuable insights and lessons learned. These countries mentioned have demonstrated the transformative potential of e-government in revolutionizing local governance by streamlining administrative processes, also enhancing transparency and accountability, and fostering more citizen engagement. These inspiring examples underscore the critical importance of strategic investments in robust information and communication technology (ICT) infrastructure, comprehensive capacity building for government officials, and the establishment of a coherent and supportive policy environment to overcome implementation challenges and to unlock the full potential of e-government.

By conducting a deep examination of the current state of e-government in the Southern Province and identifying the key barriers that hinder e-government progress, as well as by exploring actionable solutions to overcome the challenges mentioned, this research seeks to make a great contribution to the growing body of knowledge on the digital governance in Zambia. The findings of this study will provide invaluable insights for policy makers, government officials, and other key stakeholders involved in the e-government agenda. These insights will inform the development of evidence-based policy recommendations and best practices, and effectiveness of e-government initiatives at the local level, ultimately contributing to the modernization of the public service delivery across the nation.

In conclusion, the background section of this study underscores the critical role of e-government in modernizing public administration and effectively addressing the multifaceted governance challenges of the twenty first (21st) centaury. While the Zambian government has made significant strides in advancing e-government initiatives at the national level, the successful implementation of these initiatives at the local government level, particularly in regions such as Southern Province, faces unique and complex obstacles that require careful consideration and targeted interventions. This research endeavours to bridge this critical knowledge gap by providing a comprehensive and in-depth analysis of the challenges and opportunities associated with e-government implementation in local governance within Southern Province. By examining the current state of e-government adoption, identifying key barriers, and exploring potential solutions, this research aims to contribute significantly to the growing body of knowledge on digital governance in Zambia. The findings of this study will not only inform policy discussions and decision-making processes but

also contribute to the broader discourse on sustainable development and good governance in the country.

1.3. OPERATIONAL DEFINITIONS

E-Government: The use of digital technologies, including the internet, mobile devices, and other ICT tools, by government institutions to deliver services, engage with citizens, and streamline internal processes. It encompasses initiatives aimed at improving transparency, efficiency, and accessibility in governance United Nations, 2020).

Local Government: The administrative authority at the grassroots level responsible for delivering public services, implementing policies, and managing local development initiatives. In the context of this study, it refers to the city, municipal, and district councils in Southern Province, Zambia (World Bank, 2015).

ICT (Information and Communication Technology): A broad category of technologies that enable the creation, storage, processing, and dissemination of information. This includes internet services, computer hardware and software, mobile devices, and telecommunication systems (World Bank, 2021).

Public Service Delivery: The processes and activities undertaken by government institutions to provide goods, services, and infrastructure to citizens (OECD, 2019). Examples include waste management, issuance of permits, and tax collection.

Stakeholders: Individuals, groups, or organizations that have a direct or indirect interest in e-government initiatives. In this study, stakeholders include local government officials, citizens, ICT personnel, and local businesses in Southern Province (United Nations, 2020).

Digital Transformation: Integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers (Smart Zambia Institute, 2023).

Cybersecurity: The measures and practices designed to protect digital systems, networks, and data from unauthorized access, cyberattacks, and other threats. This includes the safeguarding of sensitive citizen and government information (NIST, 2020).

Policy Coherence: The alignment and consistency of policies, strategies, and regulations that govern the implementation of e-government systems (OECD, 2029). This ensures that objectives at the national and local levels are harmonized.

Smart Zambia Program: A national initiative aimed at leveraging ICT to create a sustainable, digital, and knowledge-based economy (Government of the Republic of Zambia, 2021). It focuses on modernizing public administration and enhancing service delivery.

Digital Divide: The gap between individuals, communities, or regions that have access to digital technologies and those that do not World Bank, 2021). This study examines how the digital divide affects e-government adoption in urban and rural areas of Southern Province.

Citizen Engagement: The involvement of citizens in governance processes through digital platforms, feedback mechanisms, and participatory decision-making tools facilitated by e-government systems (United Nations, 2020).

Efficiency in Governance: The ability of local governments to deliver public services and perform administrative functions with reduced time, cost, and resource wastage, achieved through the adoption of e-government systems (OECD, 2019).

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Sustainable development | Definition, Goals, Origins, Three Pillars, & Facts | Britannica). In this context, e-government is viewed as a tool to promote sustainable governance practices and economic growth.

1.4. STATEMENT OF THE PROBLEM

According to an article by the NRD Companies the concept of electronic government (e-government) emerged as a transformative force in public administration, reshaping how governments deliver services, engage with citizens, and operate internally. E-government involves the strategic utilization of Information and Communication Technologies (ICTs) to enhance the delivery of government services and information to citizens, businesses, and other government agencies (United Nations, 2020). This transformative approach aims to achieve several key objectives, among others these include, improving the efficiency and effectiveness of government operations,

enhancing transparency and accountability in government processes, and fostering greater inclusivity by expanding access to government services for all citizens.

Many governments have been using paper-based approaches in managing their businesses and this has proved disadvantageous in as far as accountability is concerned (Mehrtens et al, 2001). The constant reliance on manual systems or paper-based systems to provide services in the southern province of Zambia underscores the big gap between the ambitious policy goals given in the National ICT Policy and the reality on the ground implementation.

As previously introduced, several interconnected factors contribute to the slow progress of e-government implementation in Southern Province. These include:

The lack of adequate Information and Communications Technology (ICT) infrastructure which presents a significant barrier to effective digital transformation. Rural areas within the province often grapple with limited internet connectivity, characterized by slow speeds, frequent disruptions, and high costs of access. Furthermore, outdated hardware and software within local government offices, coupled with unreliable power supply, further impede the effective deployment and utilization of e-government systems (International Telecommunication Union, 2021). This inadequate infrastructure creates a significant bottleneck, hindering the seamless flow of information and the efficient delivery of any online services.

Financial constraints at the local government level significantly hinder the ability of councils to invest in the necessary resources for successful e-government implementation. Many local authorities face budgetary limitations, with limited financial resources allocated for ICT development. These financial constraints restrict the ability to invest in the acquisition of modern hardware and software, the upgrade of existing infrastructure, and the provision of adequate training for staff to utilize e-government systems effectively. As a result, many councils prioritize other operational needs, such as road maintenance and sanitation services, over ICT investments, further exacerbating the challenges of e-government adoption (World Bank, 2021).

Human resource challenges play a pivotal role in hampering the effective implementation and sustained utilization of e-government initiatives. Local authorities often face a critical shortage of skilled ICT personnel, including software developers, data analysts, and system administrators, who are essential for the design,

implementation, and ongoing maintenance of digital systems. This human capital deficiency is further exacerbated by limited opportunities for professional development and training for existing staff. Without adequate training and upskilling, local government employees may lack the necessary knowledge and skills to effectively utilize and manage e-government systems, hindering their full potential (United Nations, 2020).

Cultural and organizational resistance to change poses a significant barrier to the successful adoption of e-government. Stakeholders within local government institutions may perceive the implementation of e-government as a threat to their traditional roles and responsibilities, leading to resistance and a reluctance to embrace new technologies. Concerns about job security, a lack of understanding regarding the benefits of e-government, and a general preference for established routines can create a resistance to change within the organization. This resistance can manifest in various forms, such as passive resistance, active opposition, and a lack of engagement with e-government initiatives (OECD, 2019).

Moreover, the effective implementation of e-government initiatives is hindered by weak policy enforcement and fragmented regulatory frameworks. While Zambia's e-Government Master Plan provides a strategic roadmap for digital transformation, its implementation at the local level is often inconsistent due to overlapping mandates and insufficient coordination among stakeholders (Bwalya and Akakandelwa, 2023). The lack of coherence undermines the effectiveness of e-government initiatives and creates disparities in service delivery.

Addressing these challenges requires a multi-pronged approach that includes strengthening inter-agency coordination, clarifying mandates and responsibilities, and establishing clear mechanisms for information sharing and knowledge exchange among stakeholders. By fostering a more collaborative and coordinated environment, policymakers can ensure that e-government initiatives are implemented effectively and efficiently at the local level, ultimately leading to improved service delivery and enhanced citizen engagement (United Nations, 2020).

Drawing upon empirical evidence gathered through primary and secondary research methods, as well as insights from global best practices in e-government implementation, the study seeks to develop actionable recommendations for enhancing the adoption and effectiveness of e-government initiatives in Southern

Province. These recommendations will be tailored to the specific context of the region, taking into account the unique challenges and opportunities faced by local governments.

In addition, by contributing to the growing body of knowledge on digital governance in Zambia, this research aims to provide valuable insights for policymakers, practitioners, and other stakeholders involved in the e-government agenda. The findings of this study will inform the development of evidence-based policy recommendations and best practices for enhancing the adoption and effectiveness of e-government initiatives at the local government level, ultimately contributing to the modernization of public service delivery and the improvement of governance outcomes across the nation.

1.5. RESEARCH OBJECTIVES

General Objective

To explore the challenges and prospects of e-government implementation in local government within Southern Province, Zambia.

Specific Objectives

1. To assess the current state of e-government implementation in local authorities of Southern Province.
2. To identify the key challenges faced by local authorities in implementing e-government services.
3. To evaluate the impact of ICT infrastructure on the adoption of e-government services in the region.
4. To analyze stakeholder perceptions of E-Government adoption
5. To identify potential benefits and opportunities for E-Government in local governance.

1.6. RESEARCH QUESTIONS

1. How is e-government currently implemented in the local authorities of Southern Province?
2. What are the key challenges faced by local authorities in Southern Province in implementing e-government services?

3. How does the state of ICT infrastructure affect the adoption and effectiveness of e-government services in Southern Province?
4. What are the perceptions of local government stakeholders (e.g., officials, employees, and citizens) regarding e-government adoption and utilization?
5. What potential benefits and opportunities does e-government offer for enhancing governance and public service delivery in Southern Province?

1.7. SCOPE OF THE STUDY

This research focused on investigating the challenges and prospects of e-government implementation within the context of local governments in Southern Province, Zambia. The study specifically targeted three case study sites: Livingstone City Council, Choma Municipal Council, and Pemba Town Council, selected to represent a diverse range of local government contexts within the province, encompassing urban, peri-urban, and rural areas. Geographically, the study was confined to Southern Province, Zambia, recognizing the diverse socio-economic and technological landscapes within the region. Temporally, the study examined the evolution of e-government initiatives in Zambia from 2006, the year the landmark National ICT Policy was introduced to the date.

The study involved key stakeholders, including government officials, citizens, and businesses within the selected local authorities. Data collection employed a mixed-methods approach, combining qualitative and quantitative techniques, such as in-depth interviews, document reviews, observations, and surveys. The study drew upon established theoretical frameworks, such as the Technology Acceptance Model (TAM) and the Electronic Government Adoption Model (EGAM), to understand the factors influencing the adoption and utilization of e-government systems within the local government context.

Furthermore, the study incorporated comparative analysis by examining successful e-government implementation models in other countries, such as Estonia and South Korea, to identify best practices and lessons learned that can be adapted to the Zambian context.

The study acknowledges certain limitations, including the potential for limited generalizability of findings due to the focus on three specific local authorities and potential challenges in data collection due to logistical constraints in rural areas.

1.8. SIGNIFICANCE OF THE STUDY

This study on the challenges and prospects of e-government implementation in local government, focusing on Southern Province of Zambia, holds significant importance for advancing the understanding and application of digital governance in the country. By systematically examining the barriers and opportunities associated with e-government adoption at the local level, this research contributes to both the theoretical and practical aspects of digital governance.

By building upon previous research and incorporating insights from scholars and practitioners in the field, the study aimed to contribute to a more comprehensive and nuanced understanding of the challenges and opportunities of e-government implementation in the Zambian context.

Theoretically, this research makes a significant contribution to the academic understanding of e-government implementation in developing contexts, particularly at the local government level. While the Technology Acceptance Model (TAM) (Technology Acceptance Model - TheoryHub - Academic theories reviews for research and T&L) and the Electronic Government Adoption Model have been widely applied in e-government studies to understand organizational, technological and societal adoption of new technologies (Dearing and Cox, 2018), their applicability and relevance in resource-constrained environments, such as Southern Province, remain relatively underexplored. The study delved deeper into the nuances of these theoretical frameworks by examining how they function in settings characterized by limited access to ICT infrastructure, inadequate financial resources, and low levels of digital literacy. By analyzing the factors that influence the adoption and utilization of e-government systems within this specific context, the study identifies the limitations of existing theoretical frameworks and propose potential modifications or extensions to better account for the unique challenges and complexities of e-government implementation in developing countries.

Practically, the findings of this study are instrumental for policymakers, local government authorities, and practitioners in addressing the critical challenges that hinder the effective implementation of e-government systems in Southern Province, Zambia. By conducting a comprehensive analysis of the current state of e-government adoption and identifying key barriers, such as inadequate ICT infrastructure, limited financial resources, human capital deficiencies, and organizational resistance to change, the research provides a foundation for developing actionable recommendations to enhance e-government systems. These recommendations can inform the development and implementation of targeted interventions to address specific challenges. For instance, the study may recommend strategies for improving ICT infrastructure in rural areas, such as expanding internet connectivity, upgrading telecommunications networks, and providing subsidized access to technology for underserved communities. Furthermore, the research can inform the development of financial mechanisms to support e-government initiatives at the local level, such as allocating dedicated funding streams for ICT investments, exploring public-private partnerships, and leveraging innovative financing models.

On the societal level, E-government has the transformative potential to bridge the digital divide and significantly improve access to public services for marginalized populations, particularly those residing in rural areas. By leveraging digital technologies, governments can overcome geographical barriers and ensure that all citizens, regardless of their socioeconomic status, have equitable access to essential services, such as healthcare, education, and social welfare programs. This study places a strong emphasis on inclusivity, recognizing that the benefits of e-government should be accessible to all citizens, regardless of their income, location, or level of digital literacy.

Economically, the successful implementation of e-government initiatives can have a profound and transformative impact on local economic growth by significantly improving the ease of doing business. By leveraging digital technologies, governments can streamline bureaucratic processes, reduce administrative burdens, and create a more conducive environment for businesses to thrive. Additionally, E-government systems can directly reduce transaction costs for businesses by enabling online submission and processing of various applications and permits, such as business licenses, rates, construction permits, and environmental as well as building clearances. This eliminates the need for physical visits to government offices, reducing

travel time, paperwork, and associated costs for businesses. Furthermore, e-government platforms can streamline compliance processes by providing easy access to relevant regulations, online filing of taxes and reports, and automated processing of applications. This not only reduces the time and effort required for businesses to comply with regulations but also minimizes the risk of errors and delays, enhancing their overall efficiency and competitiveness. By creating a more efficient and transparent business environment, e-government also contributes to a favourable climate for investment. Investors are more likely to invest in regions where government processes are streamlined, regulations are clear and easily accessible, and corruption is minimized. E-government initiatives can play a crucial role in promoting transparency and accountability in government operations, thereby enhancing investor confidence and attracting foreign direct investment.

On a global perspective, although this study focused specifically on the challenges and opportunities of e-government implementation in Southern Province, Zambia, its findings have broader implications and relevance for other regions within the country and for similar developing countries facing similar challenges. By conducting an in-depth analysis of the context-specific challenges and identifying effective solutions within the Southern Province context, this research provides a valuable framework that can be adapted and applied to other regions in Zambia with varying levels of development and access to technology. In addition, by drawing upon comparative insights from international best practices in e-government implementation, the study ensures that its recommendations align with global trends and standards. Also, by learning from the experiences of other developing countries that have successfully implemented e-government initiatives, policymakers and practitioners in Zambia can identify effective strategies, avoid common pitfalls, and leverage innovative approaches to enhance the effectiveness of their own e-government programs. This comparative perspective is crucial for ensuring that e-government initiatives in Zambia are not only contextually relevant but also aligned with global best practices and standards in digital governance.

Policy wise, the findings of this research provide crucial evidence-based insights to inform policy formulation and decision-making at both local and national levels. By systematically identifying the challenges and opportunities associated with e-government implementation in Southern Province, the study provides concrete evidence to inform the refinement and revision of Zambia's e-Government Master

Plan. The research highlights the critical need for increased funding to support the implementation of e-government initiatives at the local level. This includes allocating adequate resources for the acquisition and maintenance of ICT infrastructure, the development and implementation of training programs for government officials, and the provision of incentives for the adoption of e-government services by citizens. On top of that, the study emphasizes the importance of capacity building initiatives to equip local government officials with the necessary skills and knowledge to effectively utilize and manage e-government systems. This includes training programs on data management, cybersecurity, and digital literacy, as well as the provision of technical support and mentorship to assist local authorities in implementing and maintaining e-government solutions. The research advocates for increased institutional support for e-government implementation. This includes strengthening inter-agency coordination, streamlining administrative procedures, and creating a more enabling environment for the adoption and utilization of digital technologies. By addressing these critical issues, policymakers can create a more conducive environment for the successful implementation of e-government initiatives across all levels of government.

The findings of this research could influence policymakers to prioritize e-government initiatives as an integral part of the broader development agenda. By demonstrating the potential benefits of e-government in improving service delivery, enhancing transparency and accountability, and driving economic growth, the study can encourage policymakers to allocate adequate resources and provide the necessary support for the successful implementation of e-government initiatives across the country.

For practitioners, this study provides valuable insights and actionable recommendations for enhancing the implementation and effectiveness of e-government initiatives at the local level. By identifying key challenges and exploring potential solutions, the research offers practical guidance for local government officials, ICT professionals, and other stakeholders involved in the e-government agenda. These insights can be used to inform the development and implementation of effective strategies for improving service delivery, enhancing citizen engagement, and promoting sustainable development.

In a nutshell, this study holds significant value for a diverse range of stakeholders, including academics, practitioners, and policymakers. For academia, this research

contributes significantly to the existing body of knowledge on e-government implementation in developing countries. By examining the challenges and opportunities of e-government adoption in Southern Province, the study bridges critical gaps in our understanding of how e-government initiatives function within resource-constrained environments. The findings of this research can be used to refine existing theories, develop new frameworks, and inform future research on e-government in developing contexts.

1.9. ORGANIZATION OF THE REPORT

This research report is structured into six chapters, each addressing specific aspects of the study. The organization is designed to provide a logical flow from the introduction of the research problem, to the presentation of findings and recommendations. Chapter 1 provides an overview of the study, including the research problem, objectives, questions, and significance, while establishing the context and scope of the research. Chapter 2 reviews existing literature on e-government, synthesizing global and local insights and identifying key challenges and opportunities. Chapter 3 outlines the research methodology, detailing the data collection methods and analysis procedures. Chapter 4 presents the core findings of the study, analyzing the data and discussing them in relation to the research objectives and existing literature. Chapter 5 delves into the interpretation of the findings, linking them to the theoretical frameworks and discussing their implications for e-government implementation. Finally, Chapter 6 summarizes the key findings, offers practical recommendations for policymakers and stakeholders, and suggests areas for future research.

This structured approach ensures a clear and comprehensive presentation of the research, facilitating an in-depth understanding of the challenges and prospects of e-government in local governance within Southern Province, Zambia.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The literature review provides an in-depth overview of the scholarly sources explored during the study to establish the context and foundation for the research on e-government implementation in local governance. It surveyed books, peer-reviewed articles, and other relevant materials to demonstrate how this study fits within the larger field of e-government and digital governance. By summarizing, analyzing, and critically evaluating prior works, the literature review highlights the theoretical frameworks, empirical findings, global practices, and contextual challenges that shape the discourse on e-government. This section not only situates the study within the existing body of knowledge but also identifies gaps and opportunities that the research aims to address in relation to the challenges and prospects of e-government in Southern Province.

2.2 EMPIRICAL REVIEW

This section focuses on empirical evidence related to e-government implementation. It emphasizes the key findings from studies conducted globally, regionally, and also locally in Zambia.

2.2.1 Background

Historically, the concept of e-government can be traced back to the early 1990s when the rapid development of the internet facilitated government service delivery online (Heeks, 2020). The first impressions were that of North America and Europe where governments started automating administrative processes and offering digital public services such as tax filing and business registrations (United Nations, 2018). By the early 2000s, global institutions such as the United Nations and the World Bank started promoting e-government as a tool for economic and social development (World Bank, 2004; United Nations, 2022). In developing countries, particularly in Asia and Latin America embraced digital governance as a means to reduce corruption and improve efficiency (Bannister and Connolly, 2020).

In Africa, the adoption of e-government gained momentum in the mid 2000s driven by policy frameworks that were aimed at digital transformation (Kossaï & Pigot, 2020).

The African Unions agenda recognized e-government as a key pillar in achieving sustainable development (UNECA, 2019). However, implementation has remained uneven because of infrastructure limitations, high cost of ICT, and also due to socio-political barriers (Monyango & Omwenga, 2021).

In Zambia, e-government has been shaped by various policy initiatives aimed at modernizing public service delivery. It started with the launch of the National ICT Policy in 2006 which sought to integrate ICTs across all sectors, including governance (Government of Zambia, 2006). According to Bwalya 2018, this policy established the foundation for digital transformation and led to various reforms in ICT governance. In 2009 the ICT ACT No. 15 of 2009 was enacted, creating a regulatory framework for ICT development and establishing the Zambia Information and Communications Technology Authority (ZICTA) to oversee digital advancements (Government Republic of Zambia, 2009). According to ZICTA 2019, the Act provided legal backing for integrating ICTS in public administration and paved way for more structured e-government initiatives. The government of the republic of Zambia intensified efforts to digitize public services in the 2010s. The Smart Zambia Initiative was introduced in 2016 under the office of the president, aimed to modernize public administration by implementing digital platforms for service delivery (Smart Zambia Institute, 2017). This initiative led to the creation of various e-government services including the Government Service Bus (GSB) and Electronic Payment Gateway (ePG) which facilitate online transactions for government services.

It is not worthy that the services alluded to above are central government platforms or available for national level government, but not the local government level. This gave additional reason for this study at the local government level to assess the availability of such services at the local level, as from the authors research, local authorities' services were not part of the Government Service Bus.

Further progress in the regulatory framework was marked by the enactment of the Electronic Government No.41 of 2021 which established a regulatory framework for digital governance and created the Electronic Government Division to oversee implementation (National Assembly of Zambia, 2021). And more recently, the National Digital Transformation Strategy (2023-2027) outlines Zambia's commitment to expanding digital services, enhancing ICT infrastructure, and promoting digital literacy (Government of Zambia, 2023).

Empirical studies on e-government have employed different methodologies, each one with unique advantages and limitations. These include the following:

Quantitative approaches in which surveys and statistical analyses are used to measure adoption rates, user satisfaction and technological readiness. For instance, an analysis by Kumar et al. (2020) showed that adoption of e-government in India shows that the perceived ease of use of use significantly influences the adoption rates. Quantitative methods may give measurable and generalizable data but most times it fails to give contextual and cultural nuances.

Qualitative approaches in which interviews and case studies are predominant in exploring contextual factors. For example, Monga (2021) made interviews in Nigeria investigating the barriers to e-government adoption, which emphasized organizational resistance and cultural challenges. It is difficult to scale and generalize these methods even though they offer depth and context.

Putting quantitative and qualitative techniques together provides a more holistic perspective. Research by Abasilim and Edet (2022) which was done in Kenya combined integrated surveys and interviews to evaluate stakeholder engagement in e-government projects. Even though this approach is costly, it balances statistical trends with contextual insights.

The advantages and disadvantages of the approaches above are that quantitative method provide generalizable data and statistical insights, but the disadvantage is that it fails to capture contextual and cultural nuances. Qualitative method on the other hand is advantageous in that it offers in-depth understanding and context specific insights, only they have the disadvantage of limited scalability and generalizability. A mixed method approach has the advantage of combining depth and breadth for a comprehensive perspective, but disadvantageous in that they require substantial resources and expertise. This study adopted a mixed method approach to harness the advantages from each approach.

2.2.2 Global, Regional and Local empirical review of e-government implementation

This section delves into the Global, Regional and Local findings some of the studies on e-government, especially those regarding the challenges in implementation and success factors for successful implementation.

Global studies show that e-government initiatives have revolutionized public administration by improving accessibility, efficiency and transparency. Leading countries such as Estonia, Southern Korea and Singapore have established robust digital infrastructures, enabling seamless online interactions between governments and citizens (United Nations E-Government Survey, 2022). In Estonia for instance, an advanced e-government model was developed offering services such as digital ID systems, online voting, and e-residency (Margetts & Dunleavy, 2021). In addition, in Estonia, the x-road platform enhanced interoperability among government agencies, streamlining services and reducing redundancies. The study on this underscored that interoperability frameworks are crucial for e-government success (United Nations, 2022). In South Korea where e-government success remains exemplary, a study by Kang and Lee (2020) highlighted that comprehensive training programmes for government staff improve adoption rates and satisfaction levels of e-government initiatives.

Studies also indicate that the adoption of artificial intelligence (AI) and block chain technology is enhancing e-government capabilities worldwide. AI-powered chatbots, big data analytics, and machine learning algorithms are being used to streamline service delivery and policy decision making (OECD, 2021). Concern about cybersecurity, data privacy, and digital divide remains prevalent, especially in less developed regions (World Bank, 2020).

Even though there are many or great technological advancements, resistance to change is a challenge that persists globally. In a study in the United States by Brown et al. (2021), the findings were that 40% of public sector employees were hesitant adopt new systems due to lack of adequate trainings.

On the regional side, in Africa, e-government adoption has been characterized by gradual progress and persistent challenges. For instance, many African countries have implemented digital strategies to improve governance but the disparities in infrastructure and digital literacy impede widespread adoption (UNECA, 2020). Countries such as Rwanda and Kenya have made great strides, leveraging on mobile technology to enhance service delivery. The Irembo platform in Rwanda for instance provides over 100 public services online covering business registration to passport applications (Munyua and Kamau, 2021). Furthermore, in Kenya, a study reported that mobile first strategies improved access to e-government services for rural populations,

indicating the importance of leveraging mobile technologies to bridge the infrastructural gaps (Mwangi et al., 2022). In Ghana, a study by Asare and Boateng (2021) revealed that citizen co-creation of e-government platforms increased adoption rates by 65%. The study emphasized involving users in the design process to increase usability and acceptance. On top of this, an article by Tikka et al., (2024) highlighted that aligning digital strategies with national policies has advanced e-government progress, emphasizing the importance of citizen involvement in platform development in Ghana. When it come to infrastructure investments for e-government, South Africa in a research by Nkosi (2020) showed that investments in broadband connectivity significantly improved service delivery in underserved areas, which shows the importance of investing in connectivity for e-government success.

Despite some positive African findings, many African countries still struggle with the digital divide, particularly in rural areas where internet access remains limited. Also, in the study given earlier by Mwangi et al., 2022, it was revealed that while mobile-first strategies have improved access to e-government services, challenges such as low public awareness and limited digital literacy persist.

In the Zambian context, despite the notable efforts towards e-government implementation through the various policy initiatives such as the enactment of the Electronic Government Act in 2021, and the establishment of the Smart Zambia Institute under the office of the President, research indicates that the adoption of e-government at the local level remains limited. According to Musonda and Phiri (2023), the Smart Zambia Initiative has achieved some notable success in e-government implementation at the national level, but inconsistent implementation at the local level which has limited the impact of their initiatives especially in the rural councils.

A study by Mulundano (2023) highlighted that many local authorities in Zambia still rely on manual, paper-based processes, making service delivery inefficient and costly. This study further underscored that only 14.29% of local authorities had websites or web portals which only provided basic information. The challenges further identified in this study were inadequate funding, limited ICT infrastructure, and a lack of skilled IT personnel. To further ascertain the persistence of these challenges, a study by Chama and Banda (2021) revealed that only 25% of local authorities had functional digital platforms with outdated systems. The study also showed that financial constraints remain a big barrier to ICT investments. Lastly, a survey in 2022 by ZICTA, showed

that 65% of citizens in urban areas accessed e-government platforms compared to only 20% in rural areas, showing the big digital divide and accessibility to internet. In terms of access to internet services in the Southern province, the result showed only 10.0% accessibility.

An assessment by the Electronic Government Division summed up the challenges in e-government uptake and utilization in Zambia as; Inadequate technical skills and knowledge to embrace new and emerging technologies, low levels of digital literacy, cultural issues, Behavioral issues including mindset, attitudes, and desires in adapting to technological advancements, high turn over of human capital with specialized ICT skills to support digital transformation in the public sector, inadequate availability of ICT tools, resistance to change in adopting new technologies due to lack of confidence in using new ICT tools effectively, and inadequate awareness and knowledge of the benefits of ICT and how it could improve the service delivery of various government processes (Electronic Government Division, 2023).

To sum up, the empirical studies underscore critical factors influencing e-government success, which includes robust ICT infrastructure, stakeholder engagement, and policy coherence. Even though methodological diversity has enriched the understanding of e-government, big gaps remain particularly in the rural and resource constrained contexts such as Southern Province. Addressing these gaps through innovative and localized strategies will enhance the inclusivity and sustainability of digital governance.

Despite the research done, significant gaps persist in the literature that can be critiqued. Some of these gaps include, limited studies focused on e-government adoption in rural and resource constrained areas such as the Southern Province of Zambia. Not to mention, in Zambia, public services that have been digitized are mostly at the national level and not at the local level, for instance the Zamportal (Government Service Bus (GSB) and Electronic Payment Gateway (ePG), as alluded to in the background of e-government implementation in Zambia. Hence more studies as well as investments are required at the local government level to foster e-government success.

There is also insufficient analysis of the stakeholder perceptions, particularly the role of the citizens and businesses in shaping adoption of e-government. Research usually overlooks the need for tailored strategies to address unique infrastructural and cultural

challenges at the local level. In Zambia as seen from the literature, most initiatives come from the top and very few to non-established initiatives from the bottom or local level tailored to that setting.

Further, most research focuses on high-income countries with advanced digital infrastructure, leaving limited empirical studies on the effectiveness of e-government in developing countries such as Zambia.

What's more, while many African studies highlight barriers to digital governance, there is insufficient analysis on the role of local governance in driving digital transformation. Future research should focus on evaluating the impact of specific e-Government initiatives and identifying best practices for successful implementation in low-resource settings. Of which this study hoped to contribute to identifying the challenges at the local government level and exploring possible prospects for successful e-government implementation.

2.3 THEORETICAL FRAMEWORK

Theoretical frameworks provide the foundational lens through which research is conducted and through which findings are interpreted. In this study, the implementation of e-government in local governance is analyzed using two key theoretical models. These are the Technological Acceptance Model (TAM), and the Electronic Government Adoption Model (EGAM). The two frameworks help to explain the adoption, challenges and the effectiveness of e-government systems especially in resource constrained environments like the Southern Province of Zambia.

2.3.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model abbreviated as TAM as revisited by recent studies like that of Venkatesh et al., 2021 and, Kim and Park, 2022 submit that two primary factors influence an individual's acceptance of technology. These two factors are Firstly, the degree to which a person believes that using a particular system will enhance their job performance (coined the Perceived Usefulness (PU)). The second factor is the degree to which a person believes that using the system will be free from effort (coined the Perceived Ease of Use (PEOU)). In this context of e-government, the Technology Acceptance Model (TAM) stresses the importance of user perceptions in driving the adoption of digital platforms. For instance, as Kim and Park (2022) showed, positive perceptions of e-government platforms, particularly their ability to

reduce bureaucratic inefficiencies and simplify administrative processes significantly enhance adoption rates among users.

The Technology Acceptance Model (TAM) is advantageous in that it provides a clear framework for understanding individual behaviour towards technology, and in that it is empirically validated in numerous studies.

The Limitations to the Technology Acceptance Model (TAM) are that it primarily focuses on the individual level factors often overlooking the broader organizational as well as infrastructure influences, and this framework does not explicitly address external variables like policy frameworks which are vital in e-government contexts.

2.3.2 Electronic Government Adoption Model (EGAM)

The Electronic Government Adoption Model (EGAM) as refined by contemporary research for instance, Alsaadi and Rutter, 2021, and Khalid and Abubakar, 2022, give greater perspective by including organizational, technological and societal factors.

To have e-government success, the Electronic Government Adoption Model (EGAM) emphasizes the following crucial components; Organizational readiness, which refers to the preparedness of government agencies in terms of leadership, technical expertise and resource allocation; Government Policies, which refers to the availability of coherent policies and regulatory frameworks that support the implementation and sustainability of e-government systems; Technology Infrastructure, referring to the availability of ICT infrastructure, including internet connectivity, hardware and cyber security measures; and, Citizen willingness, which is the degree to which citizens are open to adopting e-government services, influenced by factors such as trust, accessibility and digital literacy.

The relevance of the Electronic Government Adoption Model (EGAM) in grasping e-government adoption in developing countries is given in studies like that of Alsaadi and Rutter 2021, showing that strong government policies and reliable ICT infrastructure greatly enhance the adoption of e-government platforms in the middle east. In addition, the importance of organizational readiness in mitigating challenges related to resource constraints and technical expertise is give by Khalid and Abubakar, 2022.

The advantages of the Electronic Government Adoption Model (EGAM) are firstly that it addresses both the individual and organizational factors, which provides more

holistic view compared to the Technological Acceptance Model. And secondly, it explicitly considers external variables, such as policy and infrastructure.

The limitations of the Electronic Government Adoption Model are that while it is comprehensive, it can be very complicated to implement by virtue of its multifaceted nature. In addition, the model does not provide detailed guidance on overcoming resistance to change, a critical barrier in e-government adoption.

To sum up, both the Technological Acceptance Model and the Electronic Government Adoption Model provide great insights into the adoption and implementation of e-government systems. The TAM provides a user centric perspective, emphasizing the importance of perceived usefulness and ease of use, and the EGAM on the other hand offers a broader systemic view incorporating organizational and infrastructural readiness. These two models together provide a robust foundation for analyzing the factors influencing e-government adoption in Southern Province of Zambia.

2.4 CONCEPTUAL FRAMEWORK

The conceptual framework for this study combines insights from the Technology Acceptance Model (TAM) and from the Electronic Government Adoption model (EGAM) to scrutinize the factors influencing e-government implementation in Southern Province of Zambia. This framework provides a structured approach to understanding the relationships among individual, organizational, and infrastructural variables that impact e-government adoption and effectiveness.

The key features or components of the conceptual framework can be divided into: Individual Level factors coming from the Technological Acceptance Model, which give the Perceived Usefulness and Perceived Ease of Uses (PEOU); Organizational Level Factors, which covers the Organizational Readiness and the Policy Regulatory Frameworks; ICT Factors covering ICT Infrastructure; Societal Factors which include Citizens Willingness and Cultural Norms; and, External Variable which cover Support Systems and Barriers to Adoption.

The diagram below shows the relationships among these factors:

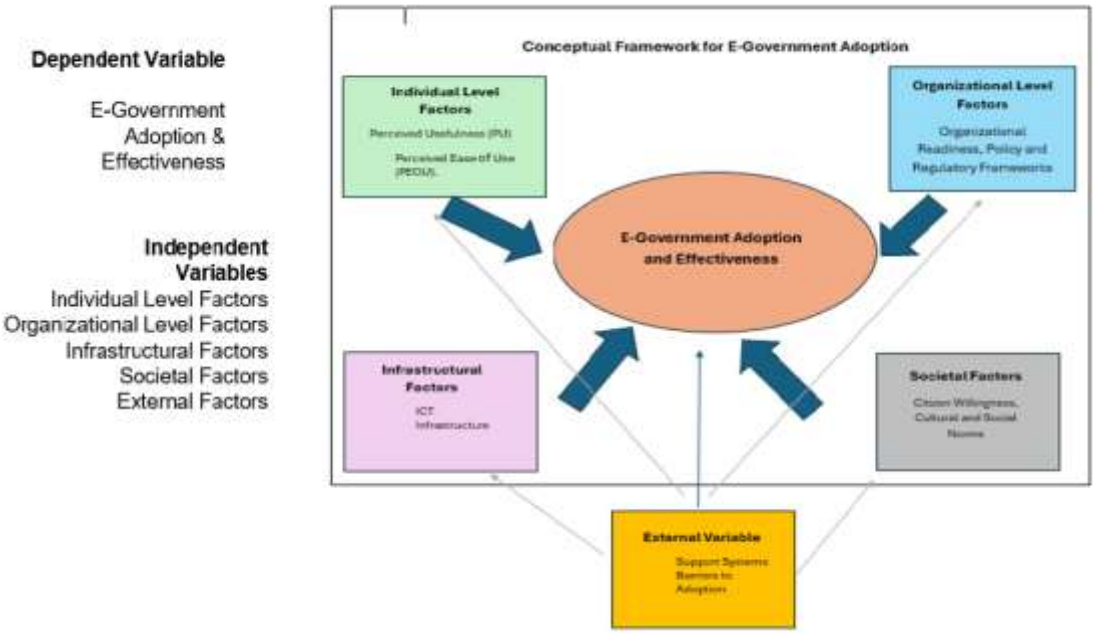

Figure 1: Conceptual Framework for E-Government Adoption

The diagram illustrates the relationships among the factored identified that influence e-government adoption and effectiveness, which are given as:

Individual Level Factors influence citizen and employee's willingness to adopt e-government platforms, which include the extent to which users believe that e-government platforms enhance efficiency and service delivery, and the Perceived Ease of Use (PEOU), which covers the degree to which users find the platforms intuitive and effortless to navigate.

Organizational Level Factors determine the capacity of local authorities to implement and sustain digital services, these include the level of preparedness of local government entities, including leadership support, resource allocation, and staff training, and Policy and Regulatory Framework such as the presence of coherent policies and regulations that promote and sustain e-government initiatives.

Infrastructure and Societal Factors mediate the accessibility and effectiveness of e-government systems, for example the availability and reliability of essential technology, such as internet connectivity, hardware, and cybersecurity measures.

External Variable act as moderating influences that either facilitate or hinder the success of e-government initiatives such as the availability of technical support and capacity-building programs to assist both government staff and citizens in using e-

government platforms effectively, Resistance to change, financial constraints, and inconsistencies in policy enforcement.

The combination of the Technology Acceptance Model (TAM) and the Electronic Government Adoption Model provides for a comprehensive perspective that covers individual behaviours, organizational dynamics, and broader infrastructural and societal influences. This framework as highlighted is particularly relevant for resource constrained settings like Southern Province where challenges such as infrastructure and financial constraints significantly impact e-government adoption.

Through the employment of conceptual framework, the study seeks to provide actionable insights into the factors that must be addressed to enhance effectiveness and sustainability of e-Government systems in local government.

2.5 CRITIQUE OF THE LITERATURE REVIEW

The critique of the literature review assesses the strengths, limitations and relevance of the literature review to the research problem. It evaluates how well the review integrates theoretical, empirical and contextual insights to the challenges and prospects of e-government in local governance, in Southern Province of Zambia to be specific.

The strengths of the literature review are that the provided literature review and empirical review present a thorough exploration of e-government implementation, combining theoretical insights; global, regional and local practices; challenges, and research gaps. Additionally, the literature review draws strength in that the inclusion of multiple theoretical frameworks, such as the Technology Acceptance Model (TAM), Diffusion of Innovations Theory, and Electronic Government Adoption Model (EGAM), demonstrates a strong interdisciplinary approach. These frameworks are relevant for understanding the individual, organizational, and systemic factors influencing e-government adoption. The explanation of each framework is concise and highlights their applicability to e-government, particularly in local governance contexts.

The review effectively integrates global best practices, such as Estonia’s X-Road platform and South Korea’s Government 24 portal, showcasing the importance of infrastructure investment, policy coherence, and stakeholder engagement. Also, Regional and local insights, particularly the challenges faced by Zambian local

governments, provide a contextual foundation for the study. Issues such as limited ICT infrastructure, financial constraints and capacity-building deficits are well-highlighted.

However, despite the aforementioned strengths in the literature, the following can be critiqued.

There is a scarcity of studies that examine e-government adoption within rural and resource limited regions, as noted by the lack or limited literature on Southern Province. The study by Bwalya and Mulundano (2023) is one that covers 116 local authorities in Zambia, but most of the other literature either concentrates at national level e-government or Lusaka city council. This predominance on centralized national systems is evidenced by the Zambia's Government Service Bus (GSB) and Electronic Payment Gateway (ePay) which are national level systems as detailed in the overview on e-government in Zambia. As a result, increased research and investment are crucial at the local government level to facilitate effective e-government implementation.

In addition, there is a lack of thorough investigation into stakeholder viewpoints, in particular the involvement of citizens and businesses in influencing e-government adoption. Research often neglects the necessity of customized strategies designed to tackle the unique infrastructural and cultural obstacles prevalent at the local level. These gaps provide a clear rationale for this study concentrating on local government and in remote based area of Southern Province.

Moreover, while a significant number of African studies document impediments to digital governance, there is limited analysis of the role of local governance in driving digital transformation. Future research should prioritize evaluating the impact of specific e-government initiatives and identifying optimal practices for successful implementation in resource constrained contexts. This study as mentioned aimed to contribute by identifying challenges at the local government level and in a resource limited area such as Southern Province and potentially explore opportunities for successful e-government implementation.

On the broader spectrum, the bulk of research concentrates on affluent nations with sophisticated infrastructure, resulting in a dearth of empirical studies assessing the efficacy of e-government in developing countries like Zambia.

While the frameworks are well-explained, there is little critique of their limitations, only that the TAM primarily focuses on individual-level factors and may not fully address organizational or infrastructural challenges. And EGAM can be very complicated to implement by virtue of its multifaceted nature as mentioned in the theoretical framework. The combinational of the two in the conceptual framework gives a comprehensive outlook on factors affecting e-government adoption.

While the review highlights quantitative, qualitative, and mixed-methods approaches, it does not critically evaluate their appropriateness for studying e-government in rural, resource-constrained contexts like Southern Province.

The empirical findings are presented descriptively but may lack critical synthesis. For instance, how do findings on citizen engagement from Ghana or South Africa compared to Zambia? Or what lessons from mobile-first strategies in Kenya can be applied to Southern Province? This could be a recommendation for future in-depth studies after the analysis of this study to ascertain the challenges being faced currently at the local level in Zambia.

Generally, it would be helpful to expand the discussion on regional examples within sub-Saharan Africa to identify models that are more directly applicable to Zambia. Furthermore, to also provide a critical analysis of how global best practices could be tailored to address Zambia's infrastructural and cultural challenges.

CHAPTER 3: METHODOLOGY

This chapter outlines the methodology adopted for this study to find out the challenges and prospects of e-government implementation in the Zambian local government system, with a particular focus on Southern Province in Zambia. The section details the research approach, the research design, the population, the sampling techniques, the data collection methods and the analysis procedures, as well as the study variables. The methodological framework ensures systematic and rigorous exploration of the research questions.

3.1 RESEARCH APPROACH

The study adopts a mixed methods approach. A qualitative approach to provide deeper insights into the challenges and opportunities of e-government implementation. Quantitative approach or principals are applied slightly in the form of data presentation,

but the research maintains the main usage of qualitative approach. The qualitative approach emphasizes the understanding of participants perspectives and experiences through detailed descriptions and thematic analysis.

3.2 RESEARCH DESIGN

The research employs a descriptive exploratory research design to as to describe the current state of e-government in local governance, also so as to explore the underlying challenges and prospects of e-governance in Southern Province and to establish relationships between infrastructural, organisational and societal factors and e-government adoption.

The research is conducted in phases presented:

Research Phase	Action
Study Description	Comprehensive literature review on e-government
Model Development	Development of the conceptual framework
Questionnaire Design	Drafting and piloting data collection instruments
Data Collection	Conducting interview and administering questionnaires
Data Analysis	Thematic analysis of qualitative data

Table 1: Research Phases and Actions

3.3 STUDY POPULATION

This study targeted a total population of 90 respondents covering local government staff of the local authorities or councils, selected citizens and selected businesses in the selected districts of Southern Province of Zambia. A study population is a set of cases, objects or events of interest to the researcher from which a sample is drawn and to which the research findings would be generalizable (McMillan & Schumacher, 2001). The districts that were purposively picked for this study in Southern Province are Livingstone (Livingstone City Council), Choma (Choma Municipal Council. The three different types of districts having a city council, a municipality and a town council was purposively selected to see the variations across these types of councils at these differing levels in terms of e-government challenges or prospects. The study population is further be broken down as:

Government Officials – Which are 15 key staff members of the selected local authorities in Southern Province (Livingstone, Choma, Pemba) including ICT personnel, further expected as Livingstone City Council five 5, Choma Municipal

Council 5, and Pemba Town Council 5. Citizens – Given as 60 residents within the localities mentioned. These are to be separated as Livingstone 20, Choma 20 and Pemba 20. Business Owners – 15 within the localities also to be separated as Livingstone 5, Choma 5 and Pemba 5.

3.4 SAMPLE SIZE

The purpose of this study was to investigate the challenges and prospects of e-government in local government, particularly studying Southern Province. To accomplish this a sample size was carefully selected targeting 15 local government staff (5 in each of the selected districts: Livingstone, Pemba and Choma), and 90 citizens or businesses with the aim of administering 30 per district to get a balanced feel of the responses in each district. So, the total targeted population was 105.

Using an online sample size calculator shown in figure 2, sample size of 105 with confidence level of 95% and margin of error of 5% meant that the sample size to be collected should have been 83, however for a balanced survey total of 105 questionnaires were administered (15 local authority questionnaire and 90 citizen/ business questionnaire). Out of the administered questionnaires, 12 respondents filled in their responses and 55 gave feedback for the citizen and business questionnaire, giving a total of 67 responses.

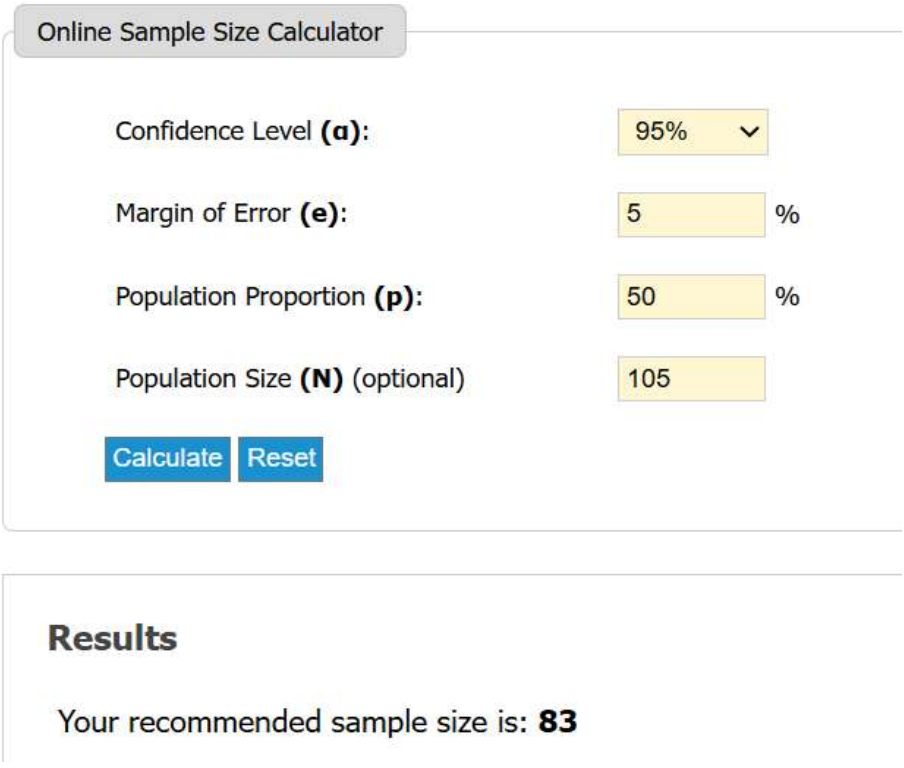

Figure 2: Online sample size calculator

The sample and their locations were selected because the researcher wanted to cover three varying types of local authorities or districts, a city, a municipal and a town council. These were also selected in terms of convenience for the researcher to reach especially Choma which is the researchers locality. Pemba and Livingstone were the next closest in proximity that fit the criteria of Town and City council.

3.5 SAMPLING DESIGN

The study employs Purposive sampling technique to select participants with relevant knowledge and experience in the way the respondent group is identified for the key informants in the local authorities, at the same the study also incorporates random selection to give equal change of being selected and to ensure that it is possible to have respondents to answer given the busy nature of government officers and because the citizens and business owners may not be known prior to the survey.

3.6 DATA COLLECTION

Primary data retrieved through the administering of questionnaires (paper based questionnaires and digital questionnaires through google sheets), structured questions (either the respondent fills in the questionnaire and also the researcher using the same questionnaire as an interview guide and asking the respondents questions from the questionnaire and answering filling the responses as given for those respondents that could not write at the point of interview).

Secondary information was obtained through reading policy documents, reports, and statistical data and articles on e-government implementation through desk study.

3.7 DATA ANALYSIS

Thematic analysis was used to identify patterns, themes and insights from the interviews and questionnaires given that is primarily qualitative study.

3.8 STUDY VARIABLES

Independent variables – ICT infrastructure, Organizational readiness, Policy and regulatory frameworks

Dependent variables – E-government adoption and implementation

Control variable – Demographic factors

CHAPTER 4: PRESENTATION OF FINDINGS

This chapter presents and analyses the results from the study, structured around the thematic areas of the state of e-government implementation in the local authorities, the key challenges faced in the implementation or adoption of e-government for local authorities and citizens or businesses respectively, and the potential benefits or opportunities for e-government implementation or adoption in Southern Province.

Because this research was mostly qualitative research, most responses and explanations are qualitative, with the inclusion of quantitative means of presenting data but also qualitatively through tables, charts, and thematic analysis.

The demographics of the respondents below for the local government staff questionnaire:

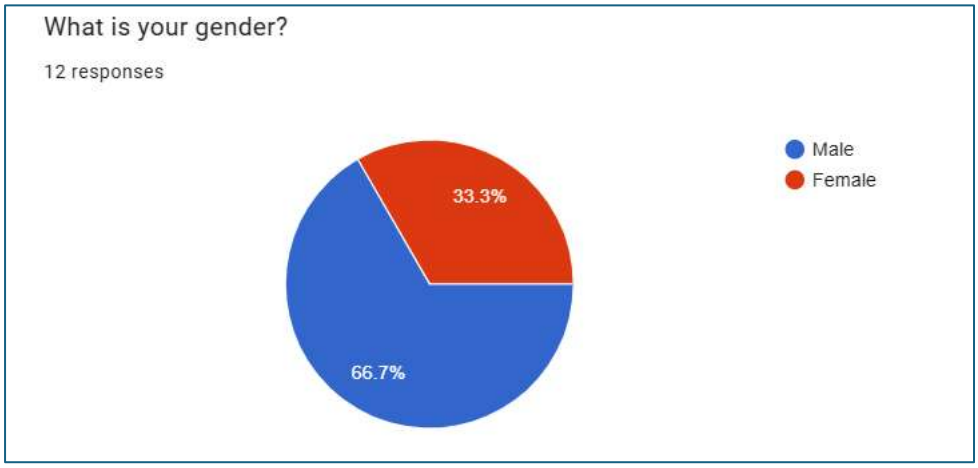

Figure 3: Local Government staff gender data. Source: google forms

The demographics from the citizen and business questionnaire:

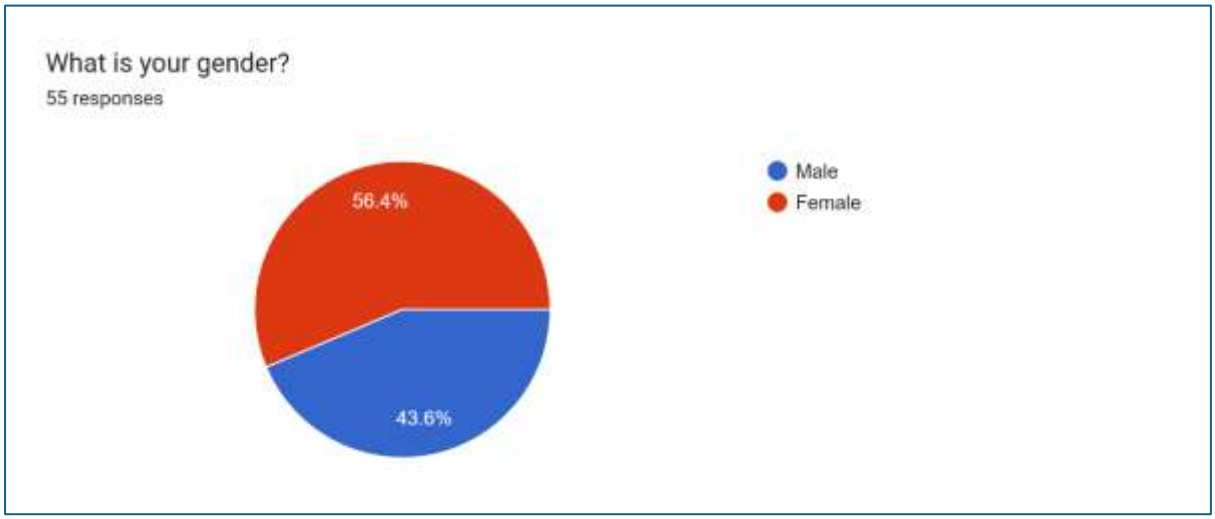

Figure 4: Citizen and business respondent gender data. Source: google forms

The Gender data represents the distribution of male and female respondents across government officials, citizens, and business owners. The age categorizes respondents based on their age groups to highlight the diversity of the sample.

As given in the beginning, the demographic profile is based on the actual response rates: 12 government officials, 55 citizen/business respondents

Diving into the main thematic areas of trying to ascertain the challenges and prospects of e-government in local government, the findings are presented in their corresponding thematic areas.

4.1 State of E-Government Implementation in Local Authorities

On the ICT infrastructure, the local authority or local government responses indicated that all of them to a have computers in their councils, with only a few indicating the use of personal computers to supplement areas of limitations. Internet is available in some councils, with some respondents indicating that they have the Global Wide Area Network (GWAN) installed. From the researcher's interaction with some of the local government staff or councils, Choma Municipal Council seemed to have the GWAN installed. 50% of the overall responses indicated internet availability, which would indicate that the other 50% is still lacking or limited in internet availability. 25% of the responses also indicated availability of software used internally to support digitalization or in this context e-government. The bar chart below shows this graphically, the responses are overall responses for all the three (3) councils surveyed:

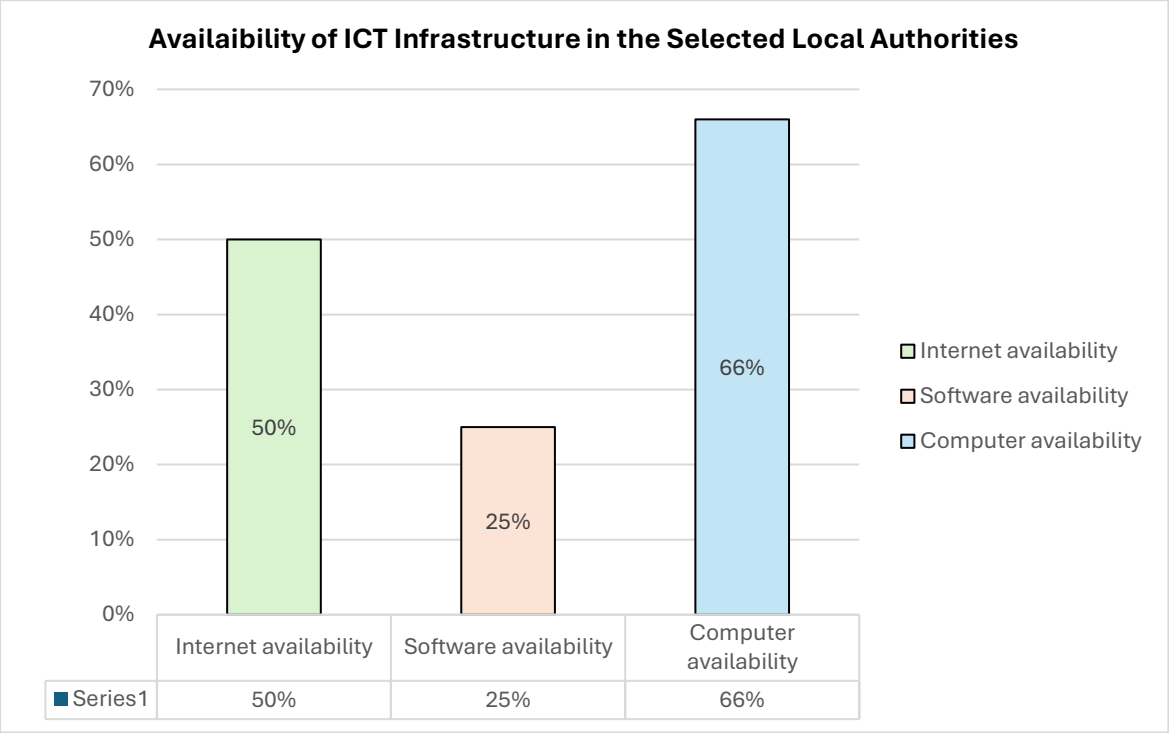

Figure 5: Availability of ICT infrastructure in the selected local authorities. Data compiled from researcher's responses of respondents. Google forms

Looking at the status presented, it was given that the current ICT infrastructure as is in the councils, especially where limited, affects the adoption and implementation of e-government in that it limits any implementation of any e-government initiatives. Because of the limited internet in some areas or local authorities it was given that electronic service cannot be provide to the citizens or districts. More investment in ICT infrastructure was reported to be needed for e-government to be implemented effectively. One respondent indicated that for those with available internet the internet they have is smooth running. But overall, with the 50% availability of internet across the three local authorities and with 66% availability of computers, it is challenging to implement, with one respondent stating (Verbatim quote):

"*As long as the internet challenges are not ironed out it will be difficult to adopt e-governance services*".

The chart below gives the overall rating given by the local authority respondents:

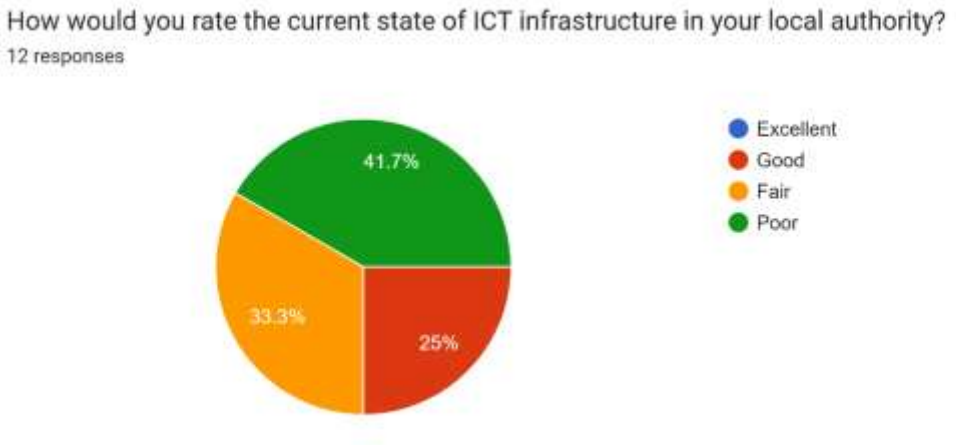

Figure 6: State of ICT infrastructure in the selected southern province councils. Source: google forms

Still within the council or local authority side, the current automated process that were as being used or implemented include: Finance accounting processes with some responses indicating Dove Software and Palm soft ware being used internally, and the Procurement process through the Zambia e-Government Procurement System which is a web-based collaborative system to facilitate the full lifecycle of the tendering process for both buyers and suppliers. On this system different public procurement procedures are supported for both one off and repetitive purchases through several dedicated sub-modules providing for user registration, tender notification, bid preparation and submission, online bid evaluation, contract awarding, creation and management of catalogue-based information, placement of electronic purchase orders, electronic invoicing and order tracking

On the implementation side of e-government, the local authority's responses indicated that on the service end, the only e-government initiatives being served to the citizens or businesses is the distribution of bills electronically (e-billing) through bulk SMS, which in this context refers to sending bills for property rates to property owners through SMS to alert them of the bill they have with the council that they need to pay. And on the other hand, Pemba Town Council is currently working on developing a Constituency Development Fund Online Application system but not yet in public use, and other responses reported that they are currently in the process of automating revenue collection in the markets, bus stations, settlements and for club registration, which should be for Choma Municipal Council and Pemba also on the registration of clubs.

On the community side of the spectrum, the citizens and businesses also confirm little to no e-government services being provided to them by their local authorities. The respondents that tackled this question indicated Facebook page and bulk SMS as the only service they are aware of that is electronic or fits e-government. One respondent from Livingstone clearly indicated that "*Livingstone is not on E-Systems*" (Livingstone resident). Which shows that citizens are not aware of any e-government services being provided to them.

The respondent's response confirming having received SMS bills for payment of property rates matches with the local authority's response of having bulk SMS as a mode of distributing the property rate bills.

4.2 Key Challenges Faced by Local Authorities, Citizens and Businesses in Implementing E-Government

On the Local authority side, the main responses given as challenges in the implementation of e-government were the lack of funds to create or implement e-government services and lack of capital investments to invest in this area, lack or limited electronic devices or laptops in some councils, poor network (with Pemba indicating that most areas have no internet especially the rural parts, and some have limited network). Another factor given was the limited ICT knowledge. It was further highlighted that these challenges affect the implementation of e-government implementation in that it leads to poor service delivery and poor collection of council revenues. The unavailability of ICT gadgets and internet both by the council and citizens also makes it very questionable as to how e-government would be implemented if these basic needed facilities are limited in the province. Resistance to change was also identified as it was noted by one respondent that some staff may still want to hold on the old way of doing things.

For citizens the main challenges presented from the citizens included, Limited awareness of existing e-government services, poor internet connectivity especially in rural areas, and lack of knowledge on how to use online platforms if or when available.

The businesses also indicated not being aware of any such services, and those that reported knowing of any services indicated only being aware of property rates bills being sent via SMS.

The overall challenges reported on the citizen and business side are summarized in the chart below:

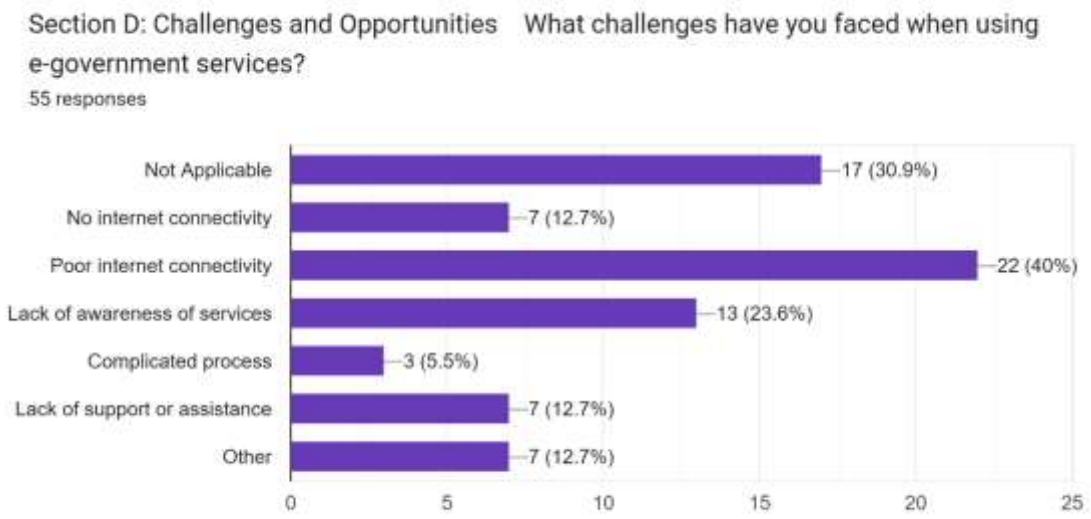

Figure 7: Challenges in e-government use. Source: google forms

From the figure, the cumulative responses on not applicable and lack of awareness of e-government services is 63.6% which shows that e-government services are not known and possibly not available in the province.

4.3 Prospects of e-government implementation (Potential benefits and opportunities for e-government implementation.

Despite the challenges given, the respondents identified several opportunities and benefits associated with e-government adoption.

From the local authority side, it is visible that most staff see e-government implementation in a positive light as indicated in the figure below, 75% see e-government services as beneficial.

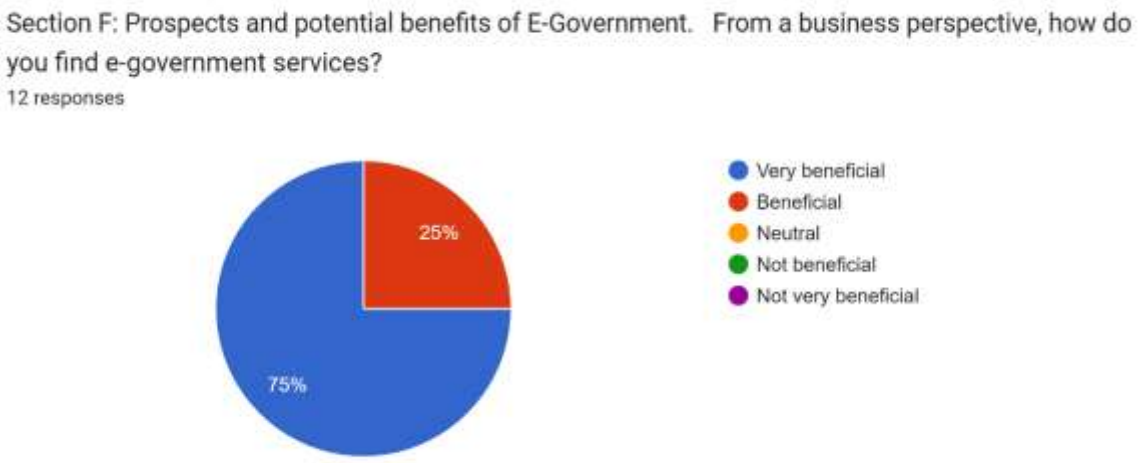

Figure 8: Local authority's perspective on e-government services. Source: google forms

The greatest potential or benefits seen for e-government implementation at the local authority perspective were enhanced service delivery and more revenue for the councils with an 83.3% respondents pointing to these as the bigger benefits. Other potential benefits foreseen or perceived were increased transparency, improved efficiency and greater citizen participation.

The figure below shows this data.

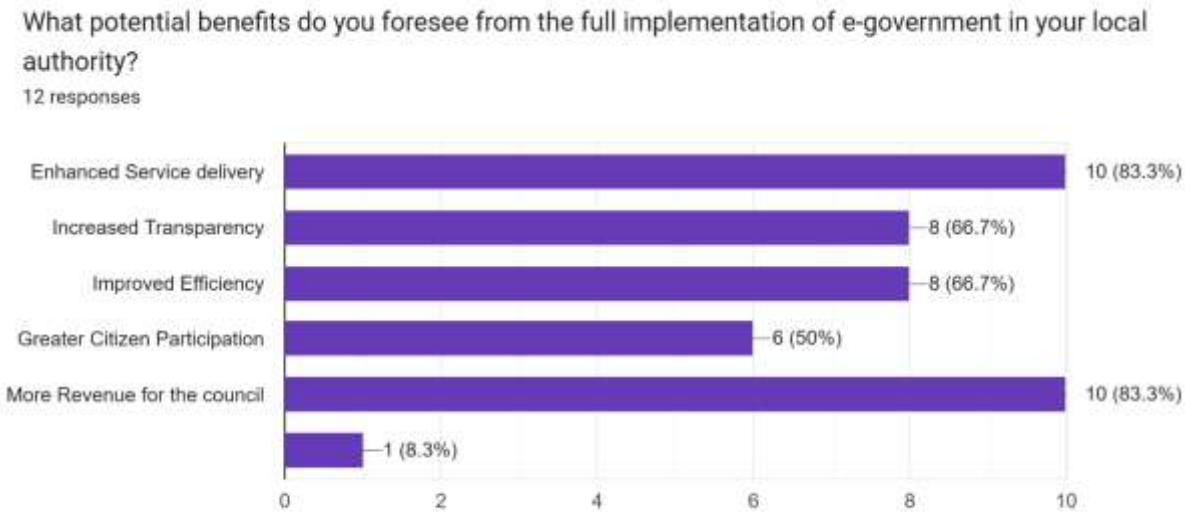

Figure 9: Potential benefits of e-government from a local government perspective. Source: google forms

The other benefit cited separately was the potential of e-government to reduce corruption and improve the management of resources.

On the citizen and business side, multiple benefits or potential benefits of e-government adoption were given summarized into the following themes:

Efficiency or time saving came out very dominantly, with various respondents citing the ease of online transactions, reduced travel time, and faster delivery as key advantages.

Cost saving, in which lot of participants mentioned cost savings related to reduced travel expenses and potentially lower transaction fees

Transparency, as many respondents indicated the potential for increased transparency through online systems, reducing risk of errors and promoting accountability.

The respondents also cited improved access to information and services especially for those in rural areas or those with limited mobility.

Certain participants saw better communication and interaction with council services through online platforms.

Some also mentioned the environmental benefit of reduced paper usage and streamlined administrative processes.

There is a great outlook and anticipation from the citizen and business people on the adoption of e-government, this of course as highlighted in the responses given above and also in response which the researcher directly quotes a respondent:

“E-governance should be promoted by all means. Not only does it save time and costs, but it is also another way of cutting the customer and staff interactions hence abating corruption. This encourages the public to make payments as they are sure their monies are not being pocketed lessening misappropriation.”

The opportunities for e-government adoption or implementation are collectively given in the figure below:

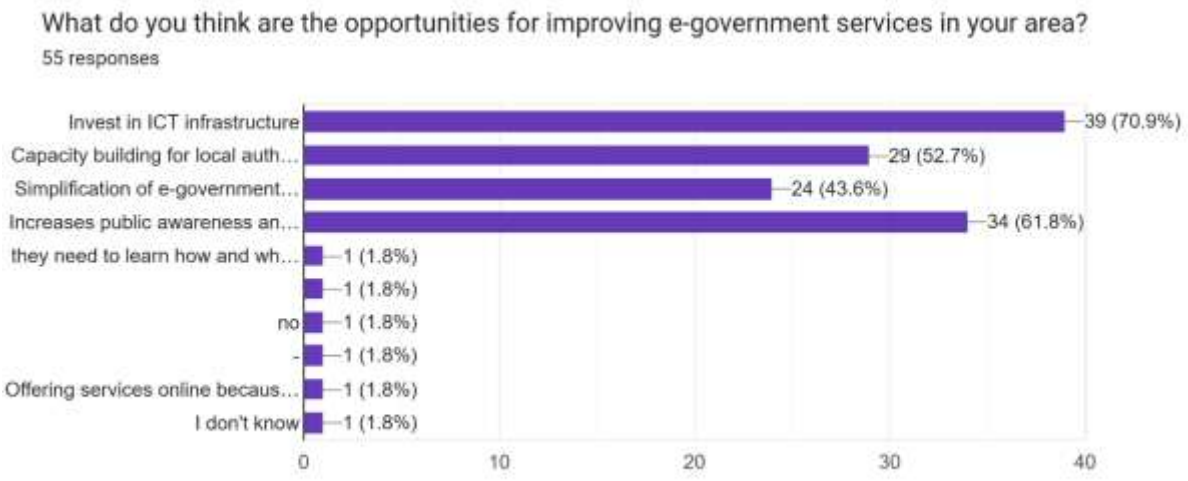

Figure 10: Perceived opportunities for e-government in southern province. Source: Google form.

As depicted, investment in ICT infrastructure, capacity building for local authorities, increasing public awareness and simplification of e-government process and given as opportunities.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1 State of E-government Implementation in Local Authorities

The findings of this research indicate that the implementation of e-government in local authorities of Southern Province is still in its infancy or early stages. While all the local authorities that were surveyed have some level of ICT infrastructure such as computers and limited internet connectivity, the level of their digitalization is still low and varies greatly. From the findings only 50% of the local authorities reported to having full internet access, and only 25% indicated the availability of any specialized software to support e-government functions. This shows or indicates that even though there is a foundational level of digital infrastructure, it is not sufficient for comprehensive e-government service delivery.

The presence of the Global Wide Area Network (GWAN) in some councils such as Choma municipal council shows progress in connectivity. But the finding that half of the local authorities surveyed, including Choma itself still struggle with internet access highlights the digital gap in the province. Without consistent and reliable internet connectivity, local authorities are unable to provide essential digital services to citizens and businesses, which ultimately impedes e-government adoption.

In addition, the existing e-government initiatives are quite limited at the local level. The only universal or extensive service reported is e-billing through bulk SMS which is primarily used for property rates notifications. Some councils like Pemba Town Council are in the process of developing new e-government services such an online Constituency Development Fund (CDF) application system or portal. These initiatives are however still in the developmental stages and are not yet accessible to the public. The general lack of awareness among citizen and business regarding any e-governance services further reinforces the limited reach and effectiveness of digital or e-governance in the province.

The responses given by the citizens and businesses affirmed a digital gap as many indicated that they were not aware of any digital services provided by their local authorities, apart from social media management through Facebook (of which only a few confirmed knowing about) and SMS notifications. This lack of awareness reinforces the notion that e-government implementation remains underdeveloped, which limits the benefits that could be realized through enhanced service delivery and administrative efficiency.

Consistent with the literature (Monyango & Omwenga, 2021), this study found that inadequate ICT infrastructure remains a primary challenge to e-government implementation in Zambia. And despite the initiatives aimed to accelerate digital transformation, local government offices, particularly in rural areas still face severe internet connectivity issues.

While the existing literature emphasized the importance of regulatory frameworks in facilitating digital transformation (ZICTA, 2019), this study disclosed that inconsistent enforcement of policies remains a key hindrance. Even though the Electronic Government Act No. 41 of 2021 provides a legal foundation for e-government, the findings suggested that local authorities lack implementation guidelines. This gap has led to fragmented adoption, with some councils advancing while others remain largely paper based.

5.2 Key Challenges Faced in Implementing E-Government

The research identified several barriers or challenges to e-government adoption at the local level. A primary challenge is the lack of financial resources necessary to develop and implement e-government solution. This confirmed the findings from the empirical

review by Chama and Banda (2021) in which their study also showed financial constraints as a big barrier to ICT investments. Many local authorities face budget constraints which limits their ability to invest in ICT infrastructure, software, and training of staff. With no adequate funding local authorities struggle to digitize their administrative processes and expand digital service provision.

To add on, the study confirmed that Zambia has made notable progress in e-Government adoption, particularly at the national level, through policies such as the National ICT Policy (2006) and the Electronic Government Act No. 41 of 2021 (Government of Zambia, 2023). However, similar to findings by Mulundano (2023), this research highlighted a slower uptake at the local government level due to financial constraints, limited technical expertise, and inconsistent policy enforcement.

Despite the notable progress made in policy enactment to support the implementation of e-government, this research identified a discrepancy between policy ambitions and practical implementation. Despite National Digital Transformation Strategy for Zambia (2023 – 2027), local authorities cited a lack of budgetary allocations for ICT upgrades, reflecting a disconnect between national strategies and local execution. This nuance has bot been thoroughly explored in previous studies.

Another crucial challenge is the lack of ICT infrastructure, some councils or local authorities rely on personal computers to bridge technological gaps which indicates that even the basic hardware resources are not sufficient. In addition, poor internet connectivity especially in the rural areas further worsens the problem. This was particularly evident in Pemba where the respondents reported that many areas lack any form of internet access due to them being mostly rural. Without stable and widespread connectivity, e-government services cannot be effectively implemented or accessed.

Furthermore, the limited knowledge among some local government staff is another obstacle. The digital transformation of government operations needs a lot of technical proficiency, yet many officers or staff lack the necessary skills and training to manage e-government systems effectively. This skill gap can hinder the development, maintenance and utilization of digital platforms which ultimately can affect service delivery or affects service delivery.

Also, some resistance to change among some local government employees was also shown or given as a challenge. Certain staff members are reluctant to adopt new technologies and prefer the traditional paper-based methods of administration. This resistance can slow down the transition to digital governance and reduce the effectiveness of e-government initiatives.

In relation to the above, a key contribution of this research was the identification of institutional inertia within local councils, which has not been extensively documented in prior literature. Unlike studies that primarily attribute slow adoption to technical and financial barriers (Mweemba et al., 2023), this study found that resistance to change among local government officials, driven by fear of redundancy and lack of digital skills, plays a significant role in hampering implementation.

From the citizens perspective limited awareness of e-government services or services offered is the most outstanding barrier. Many respondents highlighted that they were not aware of the existence of any digital government services beyond Facebook and bulk SMS notifications. This suggested that even where some services are available, they are not being effectively being communicated to the public or citizens.

Poor internet connectivity especially in the rural areas further limits the citizens ability to access any digital services were offered. Even if e-government platforms or services were to be expanded, many residents would still face challenges in using them because of the inadequate network coverage and lack of gadgets for some.

One more key challenge is the lack of digital literacy among citizens, especially noted in Pemba. Many citizens do not have the skills required to navigate online platforms or engage with e-government services. This digital divide creates an accessibility issue where only a small portion of the population is equipped to benefit from digital governance.

As such, a novel finding of this research was the limited effectiveness of mobile-based e-Government solutions in low-income communities. While studies on Africa's digital transformation (Mwangi et al., 2022) suggest mobile-first strategies as a viable alternative, this study found that a lack of affordable smartphones and digital literacy significantly hinders uptake in Zambia's rural councils. This contradicts assumptions that mobile penetration alone guarantees access to e-Government services. Not to

mention, the ZICTA (2022) survey indicating 10% accessibility to internet in Southern province further adds to this limitation.

Similarly to the citizens, the businesses also reported low awareness of e-government services. Many Business owners indicated that they were only aware of property rate e-billing via SMS, which indicates the limited scope of interactions between local authorities and the business community.

The businesses also face connectivity challenges and digital literacy challenges. For e-government to be successful in fostering a more business friendly environment, there is need for greater outreach, education and ICT infrastructure development to support local enterprises.

Aligned with Chisenga (2021), this study thus confirmed that low digital literacy levels contribute to poor adoption rates.

All in all, the findings show that both the structural and the informational barriers hinders the successful implementation of e-government in Southern Province. Without deliberate or targeted investments in ICT infrastructure, digital literacy programmes and public awareness campaigns, these challenges are likely to continue to hold back progress.

5.3 Prospects of E-government Implementation

In spite of the challenges given, the findings also indicated a belief among local authorities, citizens and businesses in the potential benefits of e-government. A great majority of 75% of local authority respondents saw e-government services as beneficial, which highlights an optimistic view towards digital transformation.

The most commonly recognized advantages of e-government for local authorities include improved serve delivery and enhanced revenue collection. With 83% of respondents identifying these as benefits it shows that local government or local authorities see digital governance as a means to streamline operations and improve financial sustainability. E-government is also shown to have the potential to increase transparency, reduce corruption and enhance citizen engagement. By automating processes such as revenue collection, procurement and public service delivery, local authorities can ensure greater accountability and efficiency.

From the angle of the citizens and businesses, the primary benefits of e-government are efficiency, convenience, and timesaving. Online platforms can reduce the need for physical visits to council offices, saving time and improving service accessibility. Cost Savings is also another. By minimizing travel expenses and streamlining transactions, e-government can lead to significant financial benefits for individuals and businesses. Increased Transparency is also a potential benefit. Digital systems can reduce bureaucratic inefficiencies and corruption, providing greater accountability in governance. In addition, Improved Accessibility, enhanced communication and reduced paperwork are also potential benefits of e-governance. E-government can bridge geographical gaps by providing digital services to remote areas, improving inclusivity, Online platforms can facilitate better interaction between citizens and local authorities, ensuring that public concerns are addressed promptly, and digital systems can minimize reliance on physical documentation, making administrative processes more sustainable and environmentally friendly respectively.

For benefits highlighted above to be fully realized, the research shows several opportunities for expanding e-government implementation in southern Province. The include:

Investing in ICT Infrastructure. This can enhance internet connectivity and provide digital devices to local authorities which will or would create an enabling environment for e-government services.

Capacity Building. Training government staff in digital skills and ICT management will be crucial for the successful implementation of e-government initiatives.

Public Awareness Campaigns and Simplification of E-government Processes. Educating citizens and businesses about available e-government services will increase engagement and utilization. And additionally making digital services user-friendly and accessible will ensure greater adoption across different population segments.

To sum up, the findings of this study show both the challenges, and the opportunities associated with e-government implementation in Southern Province. Even though there are great challenges or barriers like inadequate ICT infrastructure financial constraints, and digital literacy gaps, there is also strong interest and recognition of the potential benefits that e-governance or digital governance can bring. Addressing

these challenges through strategic investments and policy interventions will be crucial in fostering a more efficient, transparent, and citizen-centric local government system. By leveraging technology effectively, local authorities can enhance service delivery, improve revenue collection, and strengthen public trust in governance.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

This study examined the state, challenges and potential benefits of e-government implementation in Southern Province in Zambia (Selecting three local authorities as case studies, Livingstone City Council, Choma Municipal Council and Pemba Town Council). The study concludes that while e-government implementation in Southern Province is still at an early stage, its potential to transform local governance is clear or evident. The challenges such as financial constraints, limited ICT infrastructure, low digital literacy, and resistance to change impede progress. However, the anticipated benefits, including enhanced service delivery, increased transparency, and efficiency gains, indicate a promising future for e-government.

6.2 RECOMMENDATIONS

The following recommendations are given to help address the challenges to enable the implementation and adoption of e-government in Southern Province in Zambia.

Enhance ICT Infrastructure – Government should increase investment in ICT infrastructure to ensure reliable internet access in local authorities, and the expansion of fibre optic networks in rural areas to improve accessibility or internet connection.

Increase Financial Support – Finance support must be increased through budget allocation for ICT development to sustain digitalization.

Encourage Public Prive Partnerships (PPP) – Public Private Partnerships should be encouraged to support e-government initiatives.

Capacity Building and Training – Capacity building and training should be enhanced to increase digital literacy, that is both in local government or local authorities and also citizen wise.

Public Awareness campaigns – Citizens should be engaged and sensitized through public awareness campaigns to promote the use of e-government services.

Simplification of Digital Services – Digital services should be designed to be user friendly e-government platforms to encourage use and adoption

Policy and Regulatory Support – Coherent national e-government policies should be developed to solidify and guide the implementation across all government levels. And all data protection laws must be strengthened to ensure cybersecurity and privacy protection.

6.3 SUGGESTED AREAS FOR FUTURE STUDIES

Future studies can explore or build on the new contributions of this study such as the institutional resistance to e-government adoption at the local level in Zambia. This could perhaps assist in find root causes as to why some initiatives introduced at the local level are never fully implemented. Another area of possible study would be exploring how regulatory gaps and enforcement mechanisms could be enhanced to foster more adoption levels at the local government level. Also, seeing that financial constraints is cited several times in literature and confirmed in this research, future studies can explore possible low-cost digitalization innovations that local governments can explore as well as studies on funding options or collaborative options for local government to reduce or share the cost of e-government implementation. Perhaps even a study to delve into why local authorities do not allocate budgets for ICT upgrades despite clear policy regulations on digitalization or e-government, this study would offer recommendations on how budget allocations to ICT can be fostered.

Lastly, future studies can analyze the role of local governance in driving digital transformation, as well as focus on evaluating the impact of specific e-government initiatives and identifying best practices for successful implementation in low resource settings.

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Additional Online Resources:

Sustainable development | *Definition, Goals, Origins, Three Pillars, & Facts* | Britannica: https://www.nrdcompanies.com/insights/transforming-governance-the-impact-of-e-government-projects-on-efficiency-public-value/

Diffusion Of Innovations Theory: https://www.researchgate.net/publication/322941167_Diffusion_Of_Innovations_Theory_Principles_And_Practice

Technology Acceptance Model: https://open.ncl.ac.uk/theory-library/technology-acceptance-model.pdf

Zambia Public Procurement Authority (ZPPA): https://www.zppa.org.zm/

APPENDICES

Local Government Official's Questionnaire

UNIVERSITY OF LUSAKA

Dear Respondent,

I am a research student at the university of Lusaka (INILUS) pursuing a Master of Public Administration. To fulfil my dissertation requirements, I am undertaking research on the **Challenges and Prospects of E-government in Local Government: A case study of Southern Province.**

Your assistance in sparing approximately 30 minutes of your time to share your valuable knowledge, experience and insight by completing the questionnaire will be highly appreciated.

Please be assured that any information given will be treated with strict confidence, no names will be mentioned nor disclosed, and the responses will be used for research purposes only, with the hope of future policy recommendations and improving e-government services in the region.

Thank you for sparing time off your busy schedule.

Sincerely,

Rhudo Masasi.

RESPONDENTS CONSENT

(Please kindly tick the box and sign below)

☐ I do hereby declare that I have freely allowed the Ms. Rhudo Masasi to administer this questionnaire to me. I understand that the responses I am going to give in this questionnaire will be used for purely academic purposes.

.....

SECTION A – GENERAL INFORMATION

Please kindly select the applicable option and write on the blank spaces where applicable.

1. Gender
    a. Female
    b. Male
2. Age profile
    a. 18 – 25 years
    b. 26 – 35 years
    c. 36 to 45 years
    d. 46 years 65 years
    e. 65 years and above
3. How long have you worked in Local Government?
    a. 0 – 5 years
    b. 6 – 10 years
    c. 11 – 15 years
    d. 16 – 20 years
    e. 21 years and above
4. Which local authority are you currently with?
    a. Choma Municipal Council
    b. Livingstone City Council
    c. Pemba Town Council
5. What is your current role/ position in Local Government (e.g., ICT Officer, Director Finance etc.)

……

……

6. How long have you been in this role?
   a. 0 – 3 years
   b. 4 – 7 years
   c. 8 – 11years
   d. 12 – 15 years
   e. 15 years and above

SECTION B – E-GOVERNMENT IMPLEMENTATION

7. Are you aware of any e-government initiatives implemented within your local authority?
   a. Yes
   b. No

   If yes, which specific e-government initiatives are you aware of in your local authority?

   ……

   ……

   ……

   ……

   ……

   ……

   …….

8. Which processes within your local authority have been automated through e-government?

   ……

   ……

   ……

   ……

   …….

   i. How has the automation of these processes affected service delivery?

……

……

……

……

……

9. Please kindly provide specific examples of e-government services available in your local authority (to the public).

……

……

……

……

……..

i. Are the available e-government services being provided actively used by the public?

a. Yes
b. No
c. Not sure

ii. If **yes**, which services are most utilized?

……

……

……

iii. If **No**, what are the reasons for low usage?

……

……

……

……

……

SECTION C – CHALLENGES IN E-GOVERNMENT IMPLEMENTATION

10. What technical challenges does your local authority face in implementing e-government services?

    ……
    ……
    ……
    ……
    ……..

i. How do these challenges affect the implementation of e-government?

    ……
    ……
    ……
    ……
    ……..

11. Are there sufficient skilled personnel to manage and implement e-government services in your local authority?
    a. Yes
    b. No
        i. If **No**, what are the gaps in skills or training?

            ……
            ……
            ……
            ……..

12. What organizational challenges are encountered in implementing e-government (e.g., resistance to change, leadership support)?

    ……
    ……
    ……
    ……
    ……
    ……

    i. How have these challenges impacted the success of e-government initiatives?

        ……
        ……

……

……

13. Does your local authority have adequate financial resources to support e-government initiatives?
    a. Yes
    b. No
        i. What financial challenges, if any, are faced in implementing e-government initiatives?

        ……

        ……

        ……..

14. Are there any policy or regulatory barriers that hinder the effective implementation of e-government in your local authority?
    a. Yes
    b. No
        i. If yes, please describe these barriers.

        ……

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        ……..

15. Any other challenges experienced not catered for in the categories above, please indicate below.

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SECTION D. ICT INFRASTRUCTURE AND E-GOVERNMENT ADOPTION

16. What specific ICT infrastructure is available in your local authority (e.g., internet connectivity, Computer systems, software?

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…….

17. How would you rate the current state of ICT infrastructure in your local authority?
    a. Excellent
    b. Good
    c. Fair
    d. Poor
18. How does the existing ICT infrastructure affect the adoption and effectiveness of e-government services?

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19. What improvements, if any, are needed in the ICT infrastructure to enhance e-government implementation?

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SECTION E – PERCEPTIONS OF E-GOVERNMENT ADOPTION

20. What is your perception of e-government adoption in your local authority?
    a. Very Positive
    b. Positive
    c. Neutral
    d. Negative
    e. Very negative

i. What are your reasons for your perception?

    ……

    ……

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SECTION F – PROSPECTS AND POTENTIAL BENEFITS OF E-GOVERNMENT

21. From a business perspective, how do you find e-government services?
    a. Very beneficial
    b. Beneficial
    c. Neutral
    d. Not beneficial
    e. Not very beneficial
22. What potential benefits do you foresee from the full implementation of e-government in your local authority?
    - □ Enhanced service delivery
    - □ Increased transparency
    - □ Improved efficiency
    - □ Greater citizen participation

    Other, specify:

    ……

    ……

    ……

    ……

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    ……

23. What improvements would make e-government services more beneficial to citizens and businesses?

    ……

    ……

    ……

    ……

    ……

24. What are the prospects for the future of e-government in your local authority?

    ……

    ……

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……
……

i. How do these prospects look:

b. Very promising
c. Promising
d. Uncertain
e. Not promising
f. Not very promising

ii. What steps do you think are necessary to realize the mentioned prospects for the future?

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25. What recommendations would you provide to improve e-government implementation in your local authority?

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Are there any additional comments or suggestions you would like to provide regarding e-government in Southern Province?

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Thank you for your time

The Citizen and Business Questionnaire

UNIVERSITY OF LUSAKA

Dear Respondent,

I am a research student at the university of Lusaka (INILUS) pursuing a Master of Public Administration. To fulfil my dissertation requirements, I am undertaking research on the **Challenges and Prospects of E-government in Local Government: A case study of Southern Province.**

Your assistance in sparing approximately 30 minutes of your time to share your valuable knowledge, experience and insight by completing the questionnaire will be highly appreciated.

Please be assured that any information given will be treated with strict confidence, no names will be mentioned nor disclosed, and the responses will be used for research purposes only, with the hope of future policy recommendations and improving e-government services in the region.

Thank you for sparing time off your busy schedule.

Sincerely,

Rhudo Masasi.

RESPONDENTS CONSENT

(Please kindly tick the box and sign below)

☐ I do hereby declare that I have freely allowed the Ms. Rhudo Masasi to administer this questionnaire to me. I understand that the responses I am going to give in this questionnaire will be used for purely academic purposes.

.....

SECTION A – GENERAL INFORMATION

Please kindly select the applicable option and write on the blank spaces where applicable.

Demographic information for citizens

1. Age

   …….
2. Gender
   a. Male
   b. Female

3. Highest education level
   a. Primary
   b. Grade 9
   c. Secondary school (completed)
   d. Tertiary level
4. Occupation

   …….

Business Information (For Business Owners)

5. Business name:

……

……

6. Business sector/ type of business:

……

……

7. Number of employees

……

8. How many years have you been in operation?

……

9. Location:

a. Urban b. Rural

SECTION B – AWARENESS AND USAGE OF E-GOVERNMENT SERVICES

10. Are you aware of any e-government services provided by your local authority
    a. Yes
    b. No

i. If yes, which services are you aware of?
    a. Online tax payments
    b. Business registration
    c. Service applications
    d. Rates payments
    e. Other,
    specify……
    ……

11. Have you used any of the e-government services provided by the local authority/ council?
    a. Yes
    b. No

i. If yes, which services have you used?
    a. Online tax payments
    b. Business registration
    c. Service applications
    d. Rates payments

e. Other,
specify……
……

12. How often do you use e-government services (if available)?
    a. Frequently
    b. Occasionally
    c. Rarely
    d. Never

SECTION C – PERCEPTION AND SATISFACTION

13. What is your perception of the e-government services provided by your local authority/ council?
    a. Not applicable
    b. ……
    …….
14. Do you believe e-government services are improving local government and service delivery (if available)?
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree
15. Do you believe e-government services can improve local government and service delivery?
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree
16. What do you think are the main benefits of e-government services?
    a. Convenience
    b. Transparency
    c. Timesaving

d. Cost-saving
e. Improved service delivery
f. Other (please specify):

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…….

17. How satisfied are you with the quality of e-government services (if available)?
    a. Very satisfied
    b. Satisfied
    c. Dissatisfied
    d. Very Dissatisfied

SECTION D – CHALLENGES AND OPPORTUNITIES

18. What challenges have you faced when using e-government services?
    - □ No internet connectivity
    - □ Poor internet connectivity
    - □ Lack of awareness of services
    - □ Complicated processes
    - □ Lack of support or assistance
    - □ Other (Please specify):

      .....

      .....

      (Please skip is not applicable)

19. What do you believe are the key challenges faced by local authorities/ your council in implementing/ introducing e-government services?

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    .....

20. What do you think are the opportunities for improving e-government services in your area?
    - □ Investment in ICT infrastructure

- □ Capacity building for local authorities
- □ Simplification of e-government processes
- □ Increased public awareness and education
- □ Other (Please specify):

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21. What suggestions would you give to the local authorities/ councils to improve e-government services?

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22. How do you see the future of e-government in your region or what do you anticipate in the area of e-government in your region?

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i. What potential impacts/ benefits could this have on your business/ daily life?

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Thank you for your time