

An Investigation into the Implementation of Electronic Records Management Systems in Government Ministries in Zambia

By

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This Dissertation is submitted to the University of Zambia in partial fulfillment for the requirements for master's degree of Library and Information Science

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Declaration

I, **Glenda Ntalasha**, do hereby declare that this dissertation represents my own work, has not previously been submitted for a degree at this or any other university and that all works used in this dissertation have been cited.

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Approval

This report by Glenda Ntalasha is approved as fulfilling the partial requirements for a master's degree in library and information science by the University of Zambia.

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Dedication

This dissertation is dedicated to my beloved son Musonda Mulenga for giving me the inspiration to complete my research, and for the various difficulties he went through during the entire time of this study. For teaching me valuable life lessons, hope in hopelessness, patience in anguish, perseverance in difficult times and helping me believe in God like never before.

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Abstract

The study investigated the implementation of Electronic Records Management Systems (ERMS) in government Ministries in Zambia. A survey research design was used combining both quantitative and qualitative research techniques. The objectives of the study were to; establish the extent to which government ministries were implementing Electronic Records Management Systems (ERMS), determine the knowledge levels of registry and IT staff on ERMS, establish the factors hindering ministries from implementation of ERMS in Ministries and ascertain whether there is a policy framework for the implementation of ERMS. The sample size was 118 comprising of 30 key informants and 88 respondents (registry clerks and officers). Both purposive and random sampling methods was used to draw the above stated sample. Interms of data collection, a questionnaire and interview guide were used to collect both qualitative and quantitative data from key informants and respondents. The quantitative data was analysed using a specialized statistical software called Statistical Package for Social Sciences (SPSS V26) while the analysis of qualitative data was done using thematic analysis approach. Findings of the study have shown that, the government ministries in Zambia have not implemented ERMS as confirmed by 76% of respondents. Most of the respondents (63%) are of the view that they are not knowledgeable about ERMS this was confirmed by key informants who also indicated that their knowledge on ERMS was inadequate. The findings have also shown that there is no comprehensive policy framework as indicated by 82% of respondents to guide the implementation of ERMS in government ministries. The major factors hindering ERMS implementation government ministries include, financial constraints, equipment limitations and the absence of a comprehensive policy framework and lack of knowledge among staff on ERMS as was the case in other countries such as Kenya and Tanzania. Based on the findings, the study recommended that government should develop a clear policy framework, allocate sufficient funds, and implementing an extensive staff training program to enhance ERMS implementation in Zambia.

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List of Acronyms

DHIS	Digital Health Information Systems
EDMS	Electronic Document Management System
ERMS	Electronic Records Management Systems
HR1-18	Head of Registry
HIT1-12	Head of IT
IRMT	International Records Management Trust
IT	Information Technologies
PSMD	Public Service Management Division
IS	Information System
SZI	Smart Zambia Institute
TOE	Technology Organisational and Environmental

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CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter provides a concise overview of the background, problem statement, study aims, research questions, significance, limitations, theoretical framework, and operational definitions of key topics.

1.1 Background to the study

Records are an essential asset for both the public and private sectors (IRMT, 2013) as Organizations attain success by effectively managing resources to fulfil their business objectives through records. Chirwa (2015) asserts that efficient records and information management play a crucial role in attaining corporate success because the ability to access records and other documents that contain strategic information forms the foundation for making informed decisions. Hence, effective records management plays a crucial role in attaining operational effectiveness, openness, and responsibility in both corporate and governmental organizations (Festus and Nkezie, 2019).

Technology has offered novel processes and solutions to enhance the delivery of services supplied by government entities. The adoption of information communication technologies (ICT) has fundamentally altered the way business is done and revolutionized records keeping. For example, the massive advancement of ICTs has fundamentally changed the way records are created, accessed, shared, used, preserved, and disposed. The shift from paper records in 1980s to electronic records keeping in the early 1990s marked a new page in records management practices. An example of such a tool is the electronic records management system (ERMS). An Electronic Records Management System (ERMS) is a digital system designed to efficiently manage records stored in various formats. An Electronic Records Management System, refers to a system used to manage both physical paper documents and computerized electronic records in a records centre or registry (Kaupa and Chisa, 2020).

Electronic records management systems are computer systems specifically designed for the purpose of managing information. The Framework for Integration of Electronic Records Management Systems describes the electronic document management system (EDMS) as the process of managing electronic documents within an IT system, utilizing computer hardware

and software to effectively oversee, regulate, discover, and retrieve information stored in the electronic system. The ERMS seamlessly interfaces with widely used office word-processing, scanning, and email management software. Electronic records management systems can further be described as electronic instruments that facilitate the registration, capture, utilization, search, retrieval, modification, maintenance, disposal, and archiving of corporate and business documents for companies. According to Asogwa (2012), ERMS are meant to capture and manage records in any format based on the organization's record-keeping principles, as described in her definition, which encompasses the document life cycle. They are specifically developed to oversee and control records from their inception or appearance until they are discarded.

Electronic Records Management Systems offer various advantages in registries, including facilitating document sharing across multiple locations; ensuring efficient and prompt information retrieval; minimizing duplication to save expenses; and aiding in maintaining version control of data. Hence, it is imperative that government ministries promptly adopt electronic systems in their registries to enhance the efficiency and effectiveness of record management (Al-Hashimi *et al.*, 2017). The Zambian government is not exempt from the need to shift from the use of traditional methods in managing records to incorporating the use of ITs such as ERMS. Therefore, there is urgent need to emphasise the importance of implementing technologies such as ERMS for registries in government ministries in Zambia to enhance the management of records as encouraged in the E-Governance Act (Republic of Zambia, 2019).

1.1.2 Registries in Government Ministries in Zambia

The government of the Republic of Zambia has twenty-five (25) ministries namely; Finance and National Planning, Energy, Foreign Affairs and International Cooperation, and Water Development and Sanitation, ministries are Health, Community Development and Social Services, Science and Technology, Transport and Logistics, Labour, Social Security, Lands and Natural Resources, Defence, Education, Home Affairs and Internal Security, Justice, Infrastructure, Housing, and Urban Development, Commerce Trade and Industry, Small and Medium Enterprises, Local and Rural Development, Livestock and Fisheries, Agriculture, Youth Sports and Arts, Tourism, Information and Media, Mines and Minerals Development (National Assembly of Zambia, 2023).

Registries have a crucial function in overseeing record keeping within government ministries in Zambia as they promote efficiency, transparency, good governance, and accountability in the public sector by managing efficient, reliable and accurate records management systems (Nabombe, 2012). The government of the Republic of Zambia has enhanced the formalization of records management by creating registries in all government departments (PSMD, 2012). Furthermore, the government, through the Public Service Management Division (PSMD), enforces standards compliance with records management requirements across all ministries.

According to Nabombe (2012), there are a minimum of two operational registries in each government Ministry on average. Registries exist solely to oversee, coordinate, operationalise and monitor the implementation of records management systems in government ministries according to the standards set by the Records Management Division under PSMD. Most government ministries and departments operate centralised registry systems. However, some departments and units of the ministries are found in physically separate locations, each of these units might have its own registry within departments or locality. The major functions of the registries in the ministries according to the PSMD (2012) are to; classify official records for effective and efficient retrieval and storage, receive and process incoming mail, process, and despatch outgoing mail, maintain a filing system and file mail that is received or generated internally, distribute mail and other information as required, transfer semi-current and non-current records, store and maintain the non-current records, and conserve and preserve archives. According to Chirwa 2015, the registries in government ministries offers records management services to their parent ministries and collaborates with the National Archives of Zambia to handle inactive documents. Their main clientele includes all departments in their ministries both at headquarters and periphery locations, registries also interface with external clients who deliver correspondence to the ministry and those making follow ups on their correspondence to the ministries. The type records managed and preserved by registries include; human resource records which includes personal or staff files for ministry employees and other human resource related documents such as training and development, policy records for all correspondence connected to policies being implemented by the ministries, fiscal records for documenting all financial transactions in the ministry , administrative records for supporting the day to day operations and logistics of the ministries and legal records for purposes of documenting information with regards to the ministries legal mandate, laws or acts guiding their operations and also records that prove compliance to legal requirements by the

government and other relevant bodies. Other types of records include correspondence from other government bodies, private bodies and collaborating partners.

Almost all the registries in government ministries are placed and supervised under the Department of Human Resource and Administration. Few ministries placed their registries under the Departments of Information and Planning. Most registry personnel in both central and local government are seconded to ministries and departments by the Public Service Management Division. The structure for staff working in the registries included: chief registry officers as the senior most position in the registry, followed by registry supervisors, registry officers, and registry Clerks as the least position in the registry. (PSMD, 2012).

Mautu et al. (2020) have noted that many records management systems in Zambian government departments and agencies are physical, or paper based and encounter numerous challenges, including delayed retrieval of records, loss of records, premature destruction of records, and other disadvantages associated with paper-based records management systems. The records management systems exhibit significant deficiencies, including delayed response to correspondence, loss of correspondence, time wasted in locating files, misplacement or misfiling of files, and unnecessary duplication of documents. These deficiencies have a detrimental impact on efficiency and service delivery in the public sector (Chirwa, 2015).

To address these difficulties, the utilization of information and communication technologies (ITs) is unavoidable (Bwalya, 2019). Although paper records will persist and be produced in the foreseeable future, the implementation of information and communication technologies (ITs) like Electronic Records Management Systems (ERMS) is necessary to help registries utilize records more efficiently and meet the immediate operational needs of government (Aziz et al., 2019).

1.1.3 The E-government Landscape in Zambia

Governments globally are facing mounting pressure to provide services with more efficiency and reduced costs (Heeks, 2017) and through acknowledging e-government as an appealing choice, both from a commercial and political standpoint (Aziz et al., 2019). According to the Smart Zambia Institute (2023), Zambia's e-government initiative can be dated back to 1993, when the Public Service Reforms Programme (PSRP) was implemented. The goal of the PSRP was to enhance accountability, transparency, and efficiency in public services by leveraging technology. The incorporation of information and communication technologies (ICTs) in the

provision of services and advancement was explicitly acknowledged in the implementation of the Fifth National Development Plan (FNDP) from 2006 to 2010. The implementation of ICTs was initiated by the Public Service in Zambia to enhance the provision of services.

The 2006 Zambia National ICT Policy emphasized the importance of using IT in all areas of the economy and establishing a competitive and well-regulated ICT business in Zambia (Ministry of Communications and Transport, 2006). Furthermore, in 2021, the Zambian government implemented the Electronic Government Act of 2021, which mandated the creation of the Electronic Government Division inside the Office of the President (National Assembly of Zambia, 2023). The primary purpose of this unit is to facilitate the delivery of government services via the use of ICTs (National Assembly of Zambia, 2023). Under the e-Government Act, all government agencies, including the government itself, are required to fully adopt information and communication technologies (ICTs) to improve service delivery (National Assembly of Zambia, 2023).

In addition, the Smart Zambia Institute has produced a comprehensive government master plan that delineates the key objectives of the government to undertake e-government initiatives in a synchronized and unified manner. These priorities are designed to facilitate the achievement of the National Vision 2030 through consecutive national development plans. The strategy leverages previous experiences and plans while integrating aspirations to develop a future-proof e-government system (SMART Zambia Institute, 2022). Therefore, it is necessary to build systems that can adapt to changing technologies and challenges. The objective of the Smart Zambia e-Government Master Plan is to provide a well-defined strategy for expediting endeavours in delivering high-quality and prompt services to residents, non-citizens, and enterprises, while enhancing cooperation across government agencies. The plan will ultimately enhance collaboration within the public sector and revolutionize the government's operational methods (SMART Zambia Institute, 2022).

1.2 Statement of the Problem

To improve efficiency delivery of services in public service, the E-Governance Act of May 2021 was enacted to enhance promotion of electronic government services and processes to improve efficiency and service delivery in the public service. The Act establishes the Electronic Government Division in the Office of the President, granting it powers and functions and also aims to facilitate access to electronic government services, thereby improving service delivery, administrative functions, and productivity (National Assembly of Zambia, 2023). Given the

critical role records play in the administration of the public sector, it is imperative that government Ministries employ modern methods of managing records such as the adoption of Electronic Records Management Systems to enhance their contribution to the improvement in service delivery in the ministry and the country at large as encouraged in the e-governance act (Mautu et al., 2020).

Despite efforts from government such as the passing of the E-Governance Act, establishment of organizations such as the Smart Zambia Institute to offer guidance and technical support, and producing the Electronic Records and Data Management, it is not known whether government Ministries in Zambia are already implementing Electronic Records Management Systems to improve their records management practices. Therefore, this study aimed at investigating the implementation of ERMS in government ministries in Zambia.

1.3 General Objective of the study

The general objective of this study was to investigate the implementation of Electronic Records Management systems in government ministries. The specific objectives of the study were to:

- i. establish the extent to which government ministries are implementing ERMS in Zambia,
- ii. determine the knowledge levels of registry and IT staff on ERMS,
- iii. ascertain whether there is a policy framework for the implementation of ERMS,
- iv. establish the factors hindering ministries from implementing ERMS.

1.4 Research Questions

- i. To what extent are government ministries implementing ERMS?
- ii. What are the knowledge levels of registry and IT staff on ERMS?
- iii. Is there is a policy framework for the implementation of ERMS in the ministries?
- iv. What factors hinder ministries from implementation of ERMS?

1.5. Significance of the Study

This study provides a novel approach toon more information to the existing empirical research on e-records and e-government in Zambia, building upon the existing body of literature. Furthermore, the study has provided an analysis on the importance of capacity building of all stakeholders, including records and IT personnel, in acquiring the necessary

hands-on skills in electronic records, which are essential for the complete implementation of ERMS. Similarly, Tsabedze and Ngoepe (2021) suggests that both public organizations and archive institutions should prioritize capacity building, which involves investing in training and providing sustainable infrastructure to effectively preserve digital records. This study aims to have a significant impact on policy making concerning e-records management, e-government implementation, and ERMS implementation, thereby contributing to the improvement of policy in these areas. This study has determined that there are no effective policies in place for the implementation of Electronic Records Management Systems (ERMS) in ministries in Zambia. This bottleneck hinders the efficiency and efficacy of e-records management, thereby impeding the smooth deployment of electronic records management. This study is essential because it emphasizes the need for the Zambian government to create and implement policies that will benefit the broader population.

1.5 Limitations of the Study

The primary constraint arose due to the difficulty in obtaining enumeration authorisation letters from certain ministries. Nevertheless, the researcher managed to secure representation from all twenty-five government ministries in Zambia, apart from the Ministry of Défense, which declined to grant permission for data collection. The target population remained representative despite the stated constraint. Furthermore, there was a scarcity of literature regarding the deployment of ERMS in Zambia and other African countries. Nevertheless, the researcher made efforts to collect and examine all pertinent literature for the review. The use of random sampling method to pick the 88 respondents could have left out respondents who were knowledgeable on ERMS. However, the limitation of the random sampling method was mitigated using key informants. The other limitation is that the findings study is only applicable to government ministries in Zambia and no other government agencies, parastatals, local government, and other government bodies as situations with regards to ERMS adoption could be varied. However, this gives us an idea on what is happening in central government with regards to the deployment of ERMS.

1.6 Theoretical Framework

The study was anchored by the Technological Organizational and Environment (TOE) model as devised by Tornatzky and Fleischer (1990), who provided a comprehensive description of how a company absorbs and executes technical breakthroughs. The Technological, Organizational, and Environment framework identifies three constructs within an organization;

the technological context, which encompasses both internal and external technologies relevant to the firm; the organizational context, which refers to the current practices and equipment within the firm; and the environmental context, which includes the set of available technologies accessible to the firm (Baker, 2011).

The organizational context encompasses descriptive measures such as the scope, size, and managerial structure of an organization while the environmental context refers to the broader arena in which a business organization operates, including factors such as the industry, competitors, and government regulations (Tornatzky and Fleischer, 1990). The Technological Organizational Environment (TOE) framework has been widely utilized in information technology (IT) adoption studies. It offers a valuable approach to examining the adoption and integration of various IT innovations within organizations (Baker, 2011). Tornatzky and Fleisher (1990) assert that the TOE framework encompasses features that are elucidated within each of the three constructs. Technological analysis involves identifying the relative advantage of an innovation, which is the extent to which it is perceived as better than the idea it aims to replace. It also considers compatibility, which is the extent to which an innovation is believed to be consistent with existing values, past experiences, and the needs of adopters. Complexity refers to the level at which an innovation is relatively challenging to comprehend and utilize (Ismail, 2006).

The organizational construct includes two key factors. Firstly, top management support refers to the endorsement of the information system adoption initiative by senior executives. Secondly, organizational readiness is determined by the size, cost, financial, and technical resources available. It has been observed that small businesses are more likely to experience resource limitations compared to larger firms, which significantly impacts their ability to adopt innovation (Hmoud *et al.*, 2023). This resource poverty is evident in the form of financial limitations and the absence of specialized knowledge. Several prior studies have utilized the Technology Organization Environment (TOE) framework to investigate the adoption of various information systems (IS). This suggests that the framework is suitable for predicting the acceptance of innovation in organizations, making it appropriate for studying the deployment of ERMS in government ministries in Zambia (Awa *et al.*, 2016).

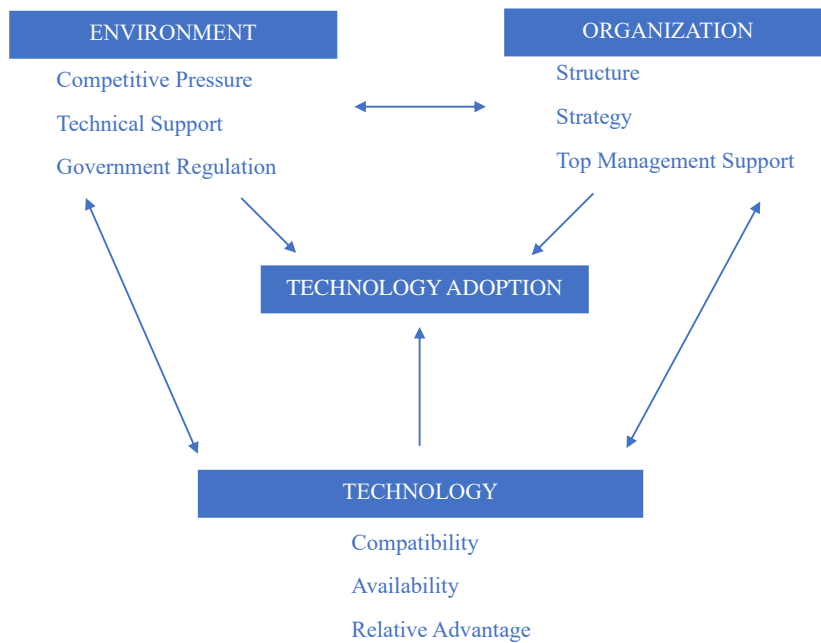


Figure 1: TOE Model: adapted from Tornatzky and Fleisher (1990)

1.6.2 Application of TOE Model to the Current Study

The application of the model was relevant to this study in providing guidance and the criteria on the implementation of the ERMS in an organisation. It has provisions for planning for technological, organisational, and environmental ingredients critical in the adoption and implementation of ERMS in organisations. Bayo (2019) outlined the challenges of technology, organisational conditions, and environment hinder organisations from implementing ERMS. The organizational construct includes two key factors. Firstly, top management support refers to the endorsement of the information system adoption initiative by senior executives. Secondly, organizational readiness is determined by the size, cost, financial, and technical resources available, factors that the government ministries and the government of the republic of Zambia can utilise to implement ERMS. The TOE model also guided the researcher in the formulation of research instruments that were administered on the respondents.

The TOE model, therefore, provides basis to anchor this study as it has a unique aspect that makes it relevant to ERMS implementation. Besides the contribution of the TOE model to planning for successful implementation of ERMS, it further conceptualises the layout of a successful ERMS by spelling out the conditions that allow the implementation of ERMS. Therefore, the TOE model as presented and provided a benchmark on which the findings were

compared to determine the best practices for implementing ERMS in government ministries in Zambia.

1.7 Operational Definitions of Terms

The following terms used in this study have these meanings:

- i. **Active records-** refer to records that are often used and are necessary for the current administration and functioning of the organization, regardless of when they were created (PSMD, 2012).
- ii. **An electronic record** -refers to records that are created, transmitted, and stored via electronic devices. An electronic record is a record that is made, stored, or transferred using electronic methods rather than physical ones, and thus meets the criteria for being considered a record. For the purposes of this study, electronic records refer to digitized versions of records that are handled within the register (Barry, 2017).
- iii. **An Electronic Records Management System (ERMS)** -is a specialised software designed to facilitate the electronic and digital management of a records management system (Bearman, 2018).
- iv. **Inactive records-** refer to documents that are no longer necessary for daily operations but may still be needed for administrative, legal, or historical purposes (PSMD, 2012).
- v. **A record** -refers to any type of information that is made, received, and preserved by the government as proof and information while conducting its business (IRMT, 2007). In this study, the term "record" refers to data that has been recorded on registry files and arranged according to the Public Service Management Division Records Management Standards (PSMD 2012).
- vi. **Records management**-encompasses a range of managerial activities, such as planning, controlling, directing, organizing, training, and promoting that are involved in the creation, maintenance, use, and disposal of records. Its purpose is to ensure that the policies and transactions of the government are adequately and properly documented, and that the government's operations are managed effectively and economically. Chaterera (2013). In the context of this study, records management refers to the set of controls that are implemented throughout the lifecycle of a record, including its production, circulation, storage, and disposal.
- vii. **The Records administration System (RMS)** - refers to the systematic administration of records inside an organization, covering all stages of the record's lifespan (Bearman,

2018). The administration of records encompasses the organized and effective oversight of the generation, upkeep, and disposal of records, as well as the corresponding business operations. In this study, the term "Records management system" refers to the standards set by the Public Service Management Division (PSMD) for managing records in public bodies (Baker, 2011).

- viii. **A registry-** is a designated location where official records are stored, or a book or system used to maintain an official record of goods. The registries within government ministries are responsible for receiving, distributing, storing, and disposing of all official records within the Ministry (Cvetkovic, 2019).

1.8 Summary

Efficient records management is essential for operational effectiveness, openness, and responsibility. Technology, particularly information communication technologies (ICT), has revolutionized records keeping, with the shift from paper records in the 1980s to electronic records in the early 1990s. The Zambian government has created registries in all government departments, with a minimum of two operational registries per ministry. However, many paper-based records management systems in Zambia face challenges such as delayed retrieval, loss of records, premature destruction, and other disadvantages. To address these issues, the use of information and communication technologies (ICTs) like ERMS is necessary.

The E-Governance Act of 2021 mandates the creation of the Electronic Government Division within the Office of the President, which facilitates the delivery of government services via ICTs. However, it is unclear whether government ministries in Zambia are already implementing Electronic Records Management Systems (ERMS) to improve their records management practices. This study aimed to investigate the implementation of ERMS in government ministries in Zambia, determining the extent to which ministries are implementing ERMS, determining the knowledge levels of registry and IT staff on ERMS, ascertaining whether there is a policy framework for ERMS implementation, and identifying factors hindering ministries from implementing ERMS. The study aims to have a significant impact on policy making concerning e-records management, e-government implementation, and ERMS implementation, and contributing to the improvement of policy in these areas. Limitations of the study include difficulty in obtaining enumeration authorization letters from certain ministries, a scarcity of literature on ERMS deployment in Zambia and other African

countries, and the findings being only applicable to government ministries in Zambia. The Technological Organizational and Environment (TOE) model, developed by Tornatzky and Fleischer (1990), is a valuable tool for studying the adoption and integration of IT innovations within organizations. The application of the TOE model was relevant to this study, providing guidance and criteria on the implementation of ERMS in organizations. It provides provisions for planning for technological, organizational, and environmental ingredients critical in the adoption and implementation of ERMS. Operational definitions of terms used in this study include active records, electronic records, Electronic Records Management Systems (ERMS), inactive records, records, records management, Records administration System (RMS), and registries. These terms help ensure the effective and economic management of government policies, transactions, and operations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

The body of literature concerning the Electronic Records Management Systems has significantly expanded due to the emergence of digital technology and the demand for enhanced government procedures that are both more effective and transparent. Scientists have examined many aspects of ERMS, such as their implementation, advantages, difficulties, and the significance of associated policy frameworks. The literature encompasses a wide range of situations, including both wealthy nations with advanced technology infrastructures and underdeveloped countries facing specific obstacles to digital transformation. In addition, the literature has extensively examined the influence of leadership, organisational culture, technical capabilities, staff training, and stakeholder engagement on the successful implementation of ERMS.

The aim of the review is to clearly explain the essential elements of ERMS, covering both theoretical foundations and practical implementations. Furthermore, it seeks to identify areas where additional research could address current knowledge gaps, specifically within the Zambian government context. The literature review will be organised according to the following themes: The Concept of electronic records management (ERM) and electronic records management systems, the benefits of implementing ERMS, requirements for adopting and implementing ERMS, implementation of ERMS: Studies from selected countries, knowledge Levels of Registry and IT staff, policy Framework for ERMS implementation and gaps in Literature reviewed as well as a summary of Literature Review.

2.1 The concept of Electronic Records Management Systems

Computers and software applications generate and store electronic records (e-records) which are digital files or data files. E-records, as defined by The International Records Management Trust (2007), are recorded information, documents, or data that serve as documentation of policies, transactions, and activities conducted in e-government and e-commerce settings which are intrinsically bind by specific machines and electronic records which can be accessed and read by specific digital processors. E-records store or transmit various forms of information, including numbers, images, audio, video, and text, in either analogue or digital

format. These assets are both strategic and operational, and they are critical to the state's functioning. It is imperative to safeguard and utilise them for the welfare of the populace.

Electronic records, like paper records, facilitate the government's daily operations and services, as well as its relationships with residents and partners in the commercial and public sectors (Pan, 2017). As the government implements online services, e-records will serve as the foundation for verifying pensions and other entitlements, registering births and deaths, confirming citizenship, and voting rights, facilitating tax collection and census enumeration, supporting financial management and adult education, resolving land claims, assisting in legal proceedings, documenting inter-governmental agreements, enabling economic planning, and describing the government's activities (Heeks, 2017). The successes of the organisation include documenting its transactions, monitoring the nation's development and governance, and facilitating several other information intensive operations.

Olumoye and Govender (2018), describes an ERMS as a software solution designed to efficiently manage electronic files and documents as records within an organization. Unlike traditional records management systems that deal primarily with physical records, ERMS focuses on capturing and preserving digital records generated through various business processes. The primary objective of an ERMS is to streamline record-keeping procedures, replacing manual methods with automated processes that enhance efficiency and productivity. By storing records digitally, ERMS eliminates the need for physical storage space, reduces the risk of data loss, and improves accessibility to information. This transformation from paper-based to digital record-keeping not only saves time and resources but also ensures compliance with legal and regulatory requirements.

In today's digital age, where companies and the public sector are inundated with electronic records, an ERMS serves as a vital tool for modernizing record management practices. By embracing digital solutions, organizations can reclaim control over their documentation, optimize workflows, protect sensitive data, and ensure compliance with legal and regulatory requirements. Ultimately, an ERMS enables organizations to stay ahead in the ever-evolving landscape of information management, fostering efficiency, security, and collaboration across the enterprise.

2.1.2 Examples of Electronic Records Management Systems

In recent years, the widespread use of electronic records management increased among various government agencies and institutions. The ERMS on the market are both commercial and open source (Mishra, 2021; Barry 2017). Various examples of ERMS include:

Box, Inc. (formerly Box.net) is a public company based in Redwood City, California. It develops and markets cloud-based content management, collaboration, and file sharing tools for businesses. Box was founded in 2005 by Aaron Levie and Dylan Smith. Initially, it focused on consumers, but around 2009 and 2010 Box pivoted to focus on business users. Its software allows users to store and manage files in an online folder system accessible from any device. Users can then comment on the files, share them, apply workflows, and implement security and governance policies. Box was founded in 2005 by Aaron Levie and Dylan Smith and was initially focused on consumers, but around 2009 and 2010 Box pivoted to focus on business users. (Michael, 2019).

Box.com is a cloud-based content management system with collaboration, security, analytics and other features related to files and information. Box stores files in an online folder system that can be accessed from any device with an internet connection. Often, a copy of the files is also stored on the user's devices, then synchronized with the online version. Users can invite "collaborators" that can upload or modify files, or the user can share specific files or folders. Users can also create certain files directly in Box.com and add comments or notes that are visible from the folder system. Files on Box are encrypted using TLS encryption. Each user has access to their own documents, as well as to corporate files that the IT department manages. IT staff can also set other access and security policies, get audit information like who accessed what files, and receive alerts for suspicious downloads. Box's open APIs allow it to integrate with common business applications. For example, one integration allows users to save files to their Box.com folders directly from Microsoft applications. The company also provides consulting, support, and other services. Box is a commercial software with pricing starting at \$15 per user monthly for businesses, which includes over 1,500 integrations and tech support during local business hours (Michael,2019)

DocuPhase is a comprehensive information management product that provides user-friendly solutions for the capture, storage, exchange, revision, and protection of business documents and other content in a digital environment. It was developed by Steven Allen in Florida, USA. DocuPhase dramatically enhances personnel productivity while simultaneously reducing the

cost of running a business. Using a standard browser interface, employees, customers, and vendors can easily access the information they need. DocuPhase is built on an open platform that allows for the expansion of its base capabilities. It easily connects to host and legacy systems, expanding the functionality and leveraging the value of a company's current hardware and software investments. Moreover, DocuPhase maintains a central, enterprise-wide repository for the storage of all Documents, unstructured information, and files that comprise a company's intellectual property and provides that content and workflow information securely over networks via its web-browser-based user interfaces. It was engineered to run on popular development platforms. Software products conform to RAD (Rapid Application Development), ODBC (Open Data Base Connectivity), SQL and other industry-wide software development standards. DocuPhase is a commercial software, however pricing information is not readily available on the vendor's website (Patel, 2024)

Laserfiche is a complete enterprise content management (ECM) suite with dedicated document and records management functions. It is developed by a privately held company based in California USA, Laserfiche develops solutions for capture, workflow, forms, e-signatures and case management that help organizations drive business value and make timely, informed decisions. It consolidates data on a single platform and lets users classify, hold and retain documents to meet compliance requirements throughout their lifecycles. Laserfiche's highest-rated features include its ability to classify metadata, automate workflows and support different file types and formats. The tool's automation features let users streamline document approval processes and automatically rename files. It also offers electronic forms that casual users can customize and connect to existing workflows. Laserfiche also recently added an integration with MuleSoft, a data integration platform to help users more easily combine the tool with other products. Organizations can deploy Laserfiche in the cloud or on premises. Support options include a help center, developer center, e-learning and premium support plans on commercial basis. Pricing for Laserfiche starts at \$50 per user monthly for Laserfiche Cloud and \$45 for the on-premises option (Wilkins, 2021)

Formerly known as OmniDocs, NewgenONE offers content services, and its Records Lifecycle Management module configures, manages, and archives documents and records. NewgenONE includes reporting capabilities, a classification scheme for management and archiving, and a dashboard where users can monitor records lifecycles and track deletion. The tool integrates with Microsoft SharePoint Online and on-premises, and it can archive records from Microsoft applications like Outlook, Word, Excel, and PowerPoint. Users rate the tool's metadata

capabilities, process automation and search functionality as its standout features. NewgenONE plans to add video analytics, improved low-code automation and app development tools, and robotic process automation to the platform. The tool offers a customer support portal for its users. Deployment options are not readily available on the vendor's website, and pricing is available upon request (Hart,2023)

Primarily an ECM platform, OpenText Extended ECM has strong records management features, like automatic document classifications and metadata to improve data governance. The tool also offers workflow automation features that can minimize manual work and AI capabilities to let users search with natural language prompts. The tool's workflow automation, search functions and lifecycle capabilities are its strongest features, according to Forrester. Its integrations let users pull in data from systems like Salesforce and SAP, and its product roadmap includes increased support for Microsoft Graph APIs, Teams and Google Workspace. Support options include a premium support plan, a knowledge base and a support portal. Users can deploy Open Text on premises, in a hybrid cloud environment or private cloud. The vendor offers three pricing tiers for cloud deployment and two for on-premises and is available on commercial basis (Michael,2019).

Revver, formerly known as eFileCabinet, is a records management system that offers document workflow automation to enhance productivity. Revver's key features include an automated storage structure with file templates, automated data extraction based on templates, and automated security policies and access controls to protect sensitive information. The latest version of Revver includes enhanced preview and document tools, which offer faster document previewing, page numbering, watermarks, and AI-powered redaction capabilities. To use Revver, users must download a desktop app for Windows or macOS. Cloud-based storage capacity goes up to 20 TB and the tool offers a mobile app for on-the-go access to documents. Revver's support options include live chat, email, and a premium support line add-on, as well as a comprehensive knowledge base for self-service. Pricing information is not readily available on the vendor's website (Oladeyo,2021)

Microsoft SharePoint is a staple in the world of enterprise records management systems. It lets users store documents, manage versions, apply retention schedules, and place legal holds across a variety of formats, including web and social media content. Users can manage records in dedicated archives or use retention labels to manage older records in the same repositories as active documents. SharePoint's collaboration features, such as file sharing, document co-

authoring and version control, are the system's highest-rated capabilities. The latest version of SharePoint includes Microsoft Copilot, a generative AI assistant that helps users design SharePoint pages and rewrite passages of text. Also, the addition of Microsoft Stream a video platform to Microsoft 365 lets users design videos in SharePoint. SharePoint 2019 is the most recent on-premises version of SharePoint, but the tool is typically deployed through Microsoft 365. Pricing for the enterprise version of Microsoft 365, which includes desktop and web versions of apps, starts at \$36 per user monthly (Small wood, 2013)

Alfresco Governance Services (or AGS), popularly known as Alfresco Records Management, controls important information that needs to be retained over time. It's used in highly regulated environments, for managing governmental information or personnel records, or where information might be audited. Fully integrated into Enterprise, Alfresco Governance Services (or AGS) makes it easy to work with files and have them declared as records at the right time, without changing the way you work. Alfresco offers the only DoD 5015.02 CH3 Certified Open Source-based Records Management Solution, besides meeting several other standards such as ISO 16175. Manage end-to-end record life cycle from creation, classification, metadata management, dissemination, retain, archive and disposition for electronic as well as Physical Records. Alfresco is easy to use records management solution to facilitate seamless user experience handling voluminous and sensitive records, accessible from modern web browsers as well using native iOS and Android Apps. Dynamic file plan to automate auto-numbering for record categories, record folders and records to meet organizations requirements. Comprehensive Audit to meet compliance and discovery requirements. Alfresco is available on both commercial and open-source basis (Hayland, 2024).

OpenKM is a reliable and affordable open-source records and document management system, to store, manage and track physical and digital document assets. From a single workspace, OpenKM can easily capture paper-based information, allowing organizations to securely maintain information about business activities and transactions without spending a fortune. With OpenKM organizations can build a valuable repository of corporate information and preserve historical content for compliance, knowledge sharing, improved decision making and increased productivity for your business (Patel, 2024). In 2011 and 2012, OpenKM began to expand its markets, translating the application to over 35 languages, allowing the Document Management System to be used worldwide by creating a network of partners. In 2017 OpenKM established subsidiaries in France, Germany, Indonesia, Italy, Malaysia, the MENA region, and the USA. In 2018 OpenKM Poland in 2019 OpenKM Hungary, OpenKM Serbia, and

OpenKM China, and in 2021 OpenKM Russia were incorporated into the OpenKM worldwide network of subsidiaries. OpenKM is a web-based Java EE application, with a modern and flexible architecture hosted in the cloud. OpenKM consolidates the processes for uploading and retrieving documents and provides essential workflow and collaboration features in one central system. The system also includes administration tools to define the user roles and permissions, document security and access control, detailed logs of activity and automation of recurring tasks. It offers browse, enrich, and edit documents and records collected from various sources from within a single application. With a document scanner, MS Office plug-ins, OCR engine and support for multiple languages, documents and records are stored, viewed, and used in a single web-based workspace. In addition, with the OpenKM API, organizations can integrate OpenKM with third party business applications, positioning OpenKM as producer or consumer of information. Teams can collaborate on documents through shared folders, threaded discussions, file attachments, and e-mail. Furthermore, with the Lucene search engine, OpenKM delivers quality content to end users through simple and advanced search, as well as user-defined, saved searches. OpenKM allows organizations to realize the full potential of corporate knowledge by turning paper-based information into valuable intellectual capital and actionable assets. OpenKM improves staff productivity through automation and simplification of daily work processes, resulting in high user adoption rates (Hart, 2023).

2.2 Benefits of Electronic Records Management Systems Implementation

Several studies which have investigated records management in the public sector in Africa and elsewhere in the world have pointed to the benefits of an electronic records management system to solve the problem associated with records management.

Gelashvili (2022) in Georgia argued that even though transformation from traditional to digital methods seem attractive, there are obstacles which come along with this change. In his study which sought to inquire on Electronic Documents and Records Management Systems (EDRMS) in the context of e-government, an exploratory case study method was used and found that EDRMS could raise efficiency in public service delivery and that benefits of implementing an EDRMS Implementation of the EDRMS solution brings tangible as well as intangible benefits to the organisations. Tangible benefits are gains directly affecting the money saved by the organisation while intangible benefits are the opposite and are not quantifiable monetary terms which include the accessibility of stored electronic documents and records through the centralized location via a central server and improves staff morale. The three major areas with tangible benefits include saving cost, saving floor space and productivity gains.

Marutha and Ngulube (2012) in their study on South Africa also found poor health service delivery due to poor records management and that the introduction of an electronic records management system that can capture and provide access to a full patient record and tracking paper record movement could enhance this. The objective of their study was to establish how electronic records were managed and the current medical recordkeeping practice using qualitative and quantitative methods through Purposive and stratified sampling methods and found that records management negatively affected timely and effective health care services, which resulted in long patient waiting times and patients being treated without medical history. The study recommended the introduction of an electronic records management system that can capture and provide access to a full patient record and tracking paper record movement, such as Electronic Document and Records Management System (EDRMS). This study however did not only focus on the health sector but the entire government ministries in Zambia.

Abdulkadhim *et al.* (2015) reviewed the concept of the current electronic document management systems in Malaysia with opportunities and challenges of EDMS. Based on the content analysis approach, the paper investigated the development of EDMS implementation studies and showed that one of the major benefits of EDMS is information management providing timely and accurate information at the least cost possible. They acknowledged that EDMS can save both time and cost by improving the speed of records retrieval and removing the need to maintain separate content infrastructure. They concluded that the time savings is the reason for the primary cost benefit. Some other derivable benefits range from supporting decision making, maintaining regulations and legislations, providing organizational memory, litigation prevention and attaining organizational efficiency and listed some benefits of EDMS to include work process and forms publication, easier search of organizational records, cost saving from low use of materials such as paper. Faster and easier information accessibility, enhanced information currency and accuracy, higher employee turnover or productivity and improved customer satisfaction and relations management.

2.3 Requirements for Adoption and implementation of Electronic Records Management Systems

In assessing records staff's awareness of e-records management determinants by exploring the perceived importance of e-records management and analysing challenges of managing records in the Records and Archive Management Department (RAMD) of Tanzania, Newa (2019)

argued that, despite rigorous efforts by the government to introduce an e-government, most of the records in the public service of Tanzania are not electronically managed. A descriptive research design alongside qualitative and quantitative approaches were utilized to collect, process, and analyse data in this study in which 38 respondents were involved. Data for this study were collected using a cross-sectional survey (i.e. questionnaire and interview) and documentary review. The study's findings revealed that determinant factors for e-records management are not in a state to speed up the take-off of e-records management initiatives of the RAMD. Shortage of competent staff for e-records management, dwindling of budget to support training and maintenance of infrastructure, and weak implementation of policies, circulars, and standards are among the challenges faced by efforts to manage e-records. Despite the slow take-off of e-records management initiatives, the responding staff perceived their management positively.

Nangomesha (2018) in her study emphasized the need for proper records management groundwork in terms of getting the filing plans and retention schedules in place, as they are a pre-requisite for successful EDRMS implementation. Change management should be an important component of an EDRMS implementation strategic plan. The study finds reveal that the adoption of an ERMS requires various aspects such as infrastructure, legal frameworks, current systems, human resources, financial competence, and management support. Some examples of components of information infrastructure that enhance the management of electronic documents are internet connectivity and its accompanying bandwidth, as well as personal computers.

Kamatula et al., (2018) aimed to determine e-records readiness in the Tanzania Public Service and assessed e-government implementation status in the Tanzania's Public Service. Using an interpretive research paradigm and adopted qualitative research method and a sample size of 50 respondents which was drawn from four public offices namely, the Ministry of Public Service, Tanzania Communications Regulatory Authority, E-Government Agency and the Records and Archives Management Department (RAMD). Data was collected through interviews and personal observation and was analysed using thematic analysis. The study found that the effective implementation of e-records management and e-government relies heavily on efficient methodologies, laws, rules, and regulations. In addition, standards include guidelines for the expected operations of various components within records management frameworks. Kamatula and Kemoni (2018) showed that the deployment of an ERMS or documents and

records management system (EDRMS) require supporting infrastructure, legal and legislative framework, and policies as well as training of staff.

2.4 Implementation of Electronic Records Management Systems in Government Ministries

With regards to the implementation of ERMS, various studies have been conducted across the globe on the deployment of ERMS in public service. Below is a highlight of literature from global, regional, and local perspectives on the implementation of ERMS.

2.4.1 Global perspective

Al-Shbail and Aman (2018) conducted a thorough study in Jordan through qualitative focus groups and in-depth interviews, to examine the elements that impact the effective implementation of ERMS. Their focus was primarily on the assistance of top-level executives, the active participation of users, and the seamless integration of workflow. The study revealed that the dedication of leaders plays a crucial role in the successful implementation of ERMS, as it aids in gaining support and overcoming resistance. The findings revealed that the e-government elements that mitigate the disorders and dysfunctions of accountability relationships are classified into three contexts, namely, technological, environmental and organizational aspects. This study provides guidelines for future e-government implementation strategy in public organizations, particularly, in the context of developing countries, as most of the recent studies of e-government in developing countries indicated that they are suffering from difficulty of managing e-government implementation to promote accountability successfully and are struggling with a lack of resources and experiences to handle this new trend of technology. These guidelines can be considered in the case of government ministries implementing ERMS in Zambia. Nevertheless, the study had limited scope in terms of coverage that focused on e-government.

Pan (2017) in Canada using the first phase of a project entitled Putting the “Fun” Back in “Functional”, on investigating the socio-technical issues surrounding users’ interaction with electronic recordkeeping systems. Semi-structured interviews were conducted with 17 public employees from a large provincial government and a large city government in Canada about two information systems, a meeting management system and an Electronic Documents and Records Management System. The results indicated the applicability of theories in the information systems field to explain and predict the implementation of electronic

recordkeeping systems. The results of this study open up many opportunities for future research on electronic recordkeeping systems in government ministries in Zambia.

Nadia and Wijayanti (2017) also conducted a study on implementation of Electronic Records Management System in Yogyakarta City Government Office of Indonesia and aimed to identify agencies within the Government of Yogyakarta City are implementing electronic records management. From the perspective of the nature of the analysis, this research categorized as a descriptive exploratory study revealed that the city government lacked the necessary software and technology for electronic document management. Furthermore, the study revealed that government institutions were deficient in the required policies pertaining to the administration of ERM systems. The study revealed that the main difficulties faced in implementing ERM systems were a lack of preparedness in terms of facilities, infrastructure, and human resources.

2.4.2 Regional perspective

Shibambu and Marutha (2022) conducted a study on the public sector of South Africa, where they put out a framework for the effective management of digital data stored on cloud platforms. The study aimed to identify challenges related to the management of electronic records in the South African public sector and to suggest strategies for resolving them using a qualitative approach and applied the content analysis of relevant literature to identify gaps and suggest solutions. The study established that the government departments under investigation still lacked the requisite tools such as policies, standards, guidelines, adequate technological infrastructure, and that there was also a lack of sufficient funding and skills and competencies to effectively deal with electronic records. The study recommended a more collaborative efforts to urgently address shortcomings to curb the continuous loss of invaluable electronic records that could ensure accountability, transparency, informed decision-making, and improved service delivery. Nevertheless, the study did not provide a comprehensive understanding of the real-world difficulties involved in applying such a framework in different organisational setups. The current research thus aimed to assess the viability of adopting the suggested framework within Zambia's unique governmental context.

Shonhe and Grand (2020) sought to assess how Tlokweng Land Board (TLB) implemented its electronic records management program by using Kotter's model and ADKAR change model in Botswana. The study adopted a case study research design to collect data at TLB using a mixed methods approach to collect data using questionnaires, interviews, and document

reviews. Purposeful sampling was used to solicit data from 53 participants in the land board and found that communication has been used as the most effective tool for managing change at TLB. However, TLB has not yet managed to reinforce the change implemented due to lack of adequate training and motivation of change champions. Moreover, the change management team has little training on the change management framework produced by the Ministry of Lands and Housing. The study recommended adoption of the change management lens by records professionals and government when implementing electronic records management systems.

Malanga and Kamanga (2019) using a descriptive survey design and 56 staff sampled randomly and purposively evaluated the level of preparedness for electronic records at Karonga District Council (KDC) in Malawi and revealed that e-records readiness at KDC was low and evolving as evident by the presence of e-record products and technologies, which were largely inadequate and obsolete. The study also established that there was inadequate and poor adherence to policies, standards, and procedures for e-records management practices. Furthermore, responsibilities for e-records management were not clear as there was no established records management programme. They, therefore, recommended the development of e-records management policy; recruitment of more staff; regular training in e-records products and other emerging technologies; mobilization of more resources required for management of records; and increasing awareness of the role of records management. Unlike Malanga's study, this study focused on 24 government ministries in Zambia in a bid to investigate the implementation of ERMS.

In Eswatini, Tsabedze and Kalusopa (2018) conducted a study aimed at developing a framework for the effective management of e-records as a facilitating tool in support of e-government using the IRMT (2004) E-records Readiness Tool as the analytical framework. The study mainly used the quantitative research approach, exploiting a survey that utilized a questionnaire as a data collection instrument. The quantitative approach was however complemented by the qualitative approach which utilized observation and interview techniques. Using Eswatini government ministries, the target study participants comprised the Directorate of Eswatini National Archives, the Directorate of Computer Services, the Directorate of E-government, Registry staff and the action officers. The results revealed that the level of e-records readiness in the government ministries is at an infant stage and that opportunities for increasing the depth of e-records readiness exist that require resolve and this highlighted the evidence of an irresponsive, weak, and disjointed legislative and policy

framework on e-records; lack of contemporary records management skills; slow progress in the implementation of envisaged electronic document records management systems (EDRMS) and low-capacity building among records management staff. Among other recommendations proffered is a useful e-record readiness framework that could enhance the management of e-records and spur the e-government drive Eswatini. This study also aimed at investigating the implementation of ERMS in all the 25 ministries in Zambia.

Karlos and Nengomasha (2018)), carried out a study that sought to assess the implementation of EDRMS in the public service in Namibia and Zimbabwe with a view of establishing the extent to which the initiative has been successful. This multi-case study was informed by an interpretivist paradigm. Qualitative in nature, the study applied face to face interviews as the data collection method, supplemented by documents analysis and concluded that a lot of financial resources were put into EDRMS project in Namibia, the preparatory groundwork in terms of file plans and retention schedules was not done hence the update of file plans caused problems of implementation. Failure to have a cadre specifically for EDRMS has resulted in problems of continuity hindering successful EDRMS implementation. Management support seems to have waned along the way.

Ambira et al., (2019), conducted a study to establish the current state regarding MER in support of e-government in Kenya. The study investigated how MER supported e-government in Kenya with a view to develop a best-practice framework for MER in support of e-government. The study aimed at ascertaining the status of MER in government ministries in Kenya and was anchored on the interpretive research paradigm through a qualitative research methodology. The study sample consisted of 52 respondents drawn from eighteen government ministries, the Kenya IT Authority, the Kenya National Archives and Documentation Service and five e-government service areas. Data was collected through face-face interviews and analysed using thematic analysis. The findings established that the general status of MER in government ministries is inadequately positioned to support e-government and that the utilization of e-government in Kenya had grown significantly and more ministries were adopting e-government services. Although some initiatives had been undertaken to enhance MER. The study concluded that the current practices for managing electronic records in support of e-government implementation were not adequate. Suggestions for further research are provided. Zambian government ministries can learn from Kenya in their quest to adopt ERMS in government ministries in Zambia.

Nyampong (2015) showed that the Ghana Immigration Service (GIS) is one of the government departments in Ghana that has implemented Electronic Document and Records Management Systems (EDRMS). In 2008, the GIS implemented the EDRMS, as stated by Nyampong in 2015. His study was an investigation into electronic records management systems at the public sector organisation in Ghana. The purpose of the study was to identify the contributions of electronic records management systems to growth and development, and areas for improvement to bolster electronic records management of the public sector in Ghana. The investigation undertaken by performing a case study in a public sector organisation showed that electronic records management systems provide good results for achieving the records management goals of GIS. Further, GIS was not sufficiently prepared for the implementation of EDRMS due to a lack of both the necessary technology and processes (Nyampong, 2015).

2.4.3 *Zambian Perspective*

Zambia is making great progress in using digital technologies to meet the social and economic transformation objectives outlined in its Vision 2030, according to the World Bank's Zambia Digital Economy Diagnostic study. In relation to the five pillars that collectively provide the framework for realizing the advantages of digital transformation, the diagnostic study evaluates Zambia's weaknesses and strength with regards to the digital transformation journey. According to the World Bank (2020), these pillars include institutional preparation, technical skills and capacity, oversight, standards, monitoring, and evaluation; environment policy and legal framework; and change management. For this reason, the study identifies essential components that must be executed for a digital migration, namely ERMS adoption. This shows that Zambia is on the right track with regards to the adoption of digital innovations such as ERMS.

Bwalya and Akakandelwa (2023) assessed the measures taken by the government to establish an integrated electronic records management system (IERMS) in the public sector of Zambia using a qualitative technique and applied a purposive sampling strategy to select a sample size of 11 key informants from important government ministries and units. Semi-structured interviews served as the primary data collection method, followed by thematic analysis. The findings of the study indicated that an integrated electronic records management system (IERMS) has not yet been implemented although the government, through the Smart Zambia Institute, has initiated the development of an IERMS. In addition, the Government of Zambia

has established a legal framework and robust IT infrastructure to facilitate the maintenance of electronic documents in the public service. Nevertheless, there are currently no established standards in place to streamline the installation of an integrated environmental resource management system (IERMS). The study has also found some problems, including insufficient finance, a lack of effective change management strategy, inadequate IT skills among records officers, and limited end-user involvement in the initiative (Bwalya and Akakandelwa, 2023). The study suggests that the Government of Zambia should prioritise the creation of an Integrated Electronic Records Management System (IERMS), implement standardised practices, enhance capacity building initiatives for personnel in e-records management, devise a plan for managing changes, and enhance the IT infrastructure for end-users (Bwalya & Akakandelwa, 2023).

In their study, Bwalya and Mulundano (2023) aimed to examine the level of e-government implementation in local authorities in Zambia by examining the presence of websites, web portals, online services, and other e-government systems and identify potential obstacles to implementing e-government in local administrations. It was reported that approximately 70 % of local authorities had encountered numerous obstacles such as insufficient financing, limited IT infrastructure, a shortage of experienced IT personnel, sporadic power supply, and unreliable internet connectivity. This study also sought to discover the hindrances to the implementation of electronics systems in government ministries in Zambia.

In their study, Mautu et al. (2020) examined the obstacles that impede the use of ERMS in government departments in Zambia. The study which was exclusively qualitative and utilized the in-depth interviewing technique on a sample size of five key informants found that public institutions had taken steps to implement ERMS, such as conducting feasibility and validation studies, implementing digitization programmes, and standardising registries in government. Additionally, they had ensured the availability of IT infrastructure to support the implementation of ERMS and established organisational policies to govern the management of electronic records. The institutions were found to have individuals who were trained in managing electronic records. They also ran training programmes to improve the skills and competence of their personnel. The study also found that most institutions had not yet decided on which ERMS to acquire or were in the process of creating and implementing their own ERMS. Therefore, the records in the institutions were primarily paper based, manually maintained, and controlled in registries or record centres. One of the obstacles identified in the

study was that most institutions lacked sufficient financing, despite the government's strong commitment to implementing ERMS across government departments.

2.5 Knowledge Levels of Registry and Information Technology Staff

In their study, Mutsagondo and Ngulube (2019) examined the proficiency of people responsible for handling electronic documents in Zimbabwe's public service through an evaluation of skill levels, gaps and needs of personnel who manage electronic records in Zimbabwe's public departments and established that although an array of officers managed electronic records, most of them were not qualified in records management and as such lacked competencies to manage electronic records properly and professionally. This qualitative study involved 55 officers who worked with electronic records in government ministries in the Midlands Province of Zimbabwe. Data were collected using interviews which were triangulated by document reviews and analysed thematically. The study recommended skills development through workshops and college courses, skills collaboration, and the hiring of qualified records officers for Zimbabwe to turn around her electronic records management fortunes.

Kaupa and Chisa (2020) conducted a study to explore factors hindering the adoption of EDRMS in the Office of the Prime Minister (OPM) in South Africa using a qualitative research approach. The data collecting instruments included open-ended questionnaires, face-to-face interviews, and observation of the study respondents. The study found that insufficient training of staff on electronic records management, lack of user needs analysis and lack of user involvement before the introduction of the system all contributed to resistance of the EDRMS adoption in the OPM and recommended that the OPM must provide adequate training to its employees on electronic records management and on the EDRMS.

Kasavanga (2022) conducted a study that investigated the contribution of Knowledge Sharing to the successful implementation of the Electronic Document and Records Management System (EDRMS) in the Namibian public service. The study adopted an interpretivist research paradigm, a qualitative research approach for the data collection and a multiple case study research design. Data were collected through document analysis, semi-structured interviews and participant observations. The study found that the reason for the poor success of EDRMS implementation in the Namibian public service points to a lack of poor sharing of knowledge during the implementation stages of EDRMS. This was because both key users and end users of EDRMS did not have adequate knowledge sharing opportunities, other than training sessions on EDRMS operations. The study recommended that institutions should deliberately design

and create opportunities that would engage all employees and lead to active knowledge sharing throughout all the divisions and units of an institution.

2.6 Policy Framework Availability for Electronic Records Management Systems Implementation

In South Africa, Jacobs and Lemekoana (2022) conducted a study on the status of electronic records management as it relates to South Africa's Department of Justice and Constitutional Development. Interviews with electronic records management professionals yielded information on current electronic records management practices and how these could be improved to support and expand e-government activities. Findings indicated that, while South Africa's Department of Justice and Constitutional Development has been implementing various systems to support electronic records management systems, there has been no integration of the systems to promote e-government. The findings support the development and implementation of structured and organised electronic records management guidelines, including the implementation of an integrated electronic records management system, updating of the existing file plan, improvements of IT infrastructure and extended training opportunities for staff. The present study aimed to provide a cohesive strategy for implementing ERMS in Zambia's various government ministries by examining how these aspects are relevant to the country's overall governmental structure.

Tsabedze (2020) presented findings on the management of e-records in a higher education institution (HEI) with a view to developing a best-practice framework for the management of e-records. The study which utilised interviews, observation document review, and questionnaire to generate data revealed that there are weak institution policies and procedures to guide the management of e-records and the lack of knowledge and skills in the management of e-records. The study recommended the improvement of the e-records management policy framework and creation of awareness about management of e-records and regular training for records officers.

Kamatula and Kemoni (2018) investigated a framework for e-records management in support of e-government in the Tanzania public service. Using the International Records Management Trust (IRMT), e-records Readiness Tool (2009) and World Bank e-government Handbook for Developing Countries (2002) as the theoretical framework. Data were collected through interviews and personal observation and analysed using thematic analysis. Findings revealed that although there is evidence of availability and use of e-records across government institutions in Tanzania, the e-records readiness and efficiency levels in support of e-

government were low. In addition, the study established that despite the country's efforts to embrace IT tools across the public service, the management of e-records is not yet streamlined to the majority registries and recommended a framework for effective management of e-records in support of e-government implementation.

2.7 Factors Hindering the Implementation of Electronic Records Management Systems

Balogun *et al.* (2019) in Nigeria examined the factors that affect adoption and non-adoption of EDMS using an interpretive research design through an in-depth interview of IT officers and record managers at selected public and private organizations within Ilorin metropolis using purposive sampling. The result of the data analysis using deductive coding frame of Atlas revealed that search functionality, reliability, accessibility, and security of EDMS, are the major reasons for adoption, while reasons for non-adoption include vulnerability to attack, high cost of implementation and digital illiteracy of staff members. It was recommended that open-source development of the system be encouraged to ensure exclusive adoption by organizations. These findings could be adopted into the Zambian context with regards to the choice of ERMS to implement if acquisition costs are to be managed.

Aziz, Yusof and Mokhtar (2019) sought to identify the factors that influence ERMS adoption in the Yemeni oil and gas sector through a systematic literature review on the most common factors that facilitate successful ERMS adoption. Information technology (IT) experts were asked to rank the extracted factors via an e-mail questionnaire and recommend specific critical success factors that must be given extra attention in increasing the success of the ERMS adoption. Essentially, the proposed methodology was the Technology, Organization and environment (TOE) modelling that examined the important factors influencing decision-makers in the Yemeni oil and gas sector regarding ERMS adoption and found that only 12 out of 20 factors were significant. This study also delved into the factors impeding the adoption of ERMS in government ministries in Zambia.

Mosweu *et al.* (2016) in their study, aimed to understand Action Officers' perceptions of adoption and usage of the document workflow management system (DWMS) at the Ministry of Trade and Industry in Botswana. The survey used a questionnaire distributed across Gaborone to gather data on the perceptions of anticipated users of the DWMS. The study used a modified form of unified theory of acceptance and use of technology as a theoretical lens to explore user's perception on the adoption and use of DWMS at the Ministry of Trade and Industry. Their findings revealed negative attitudes to computers, computer anxiety, the

complexity of DWMS and its incompatibility to current working practices influences Action and Records Officers' unwillingness to adopt and use the DWMS. However, this study was limited to the Ministry of Trade and Industry's Department of Corporate Services in Botswana and thus its findings cannot be statistically generalized. This study also delved into finding the factors that hinder ERMS implementation in government ministries in Zambia.

Kwatsha (2010) in South Africa investigated factors affecting the implementation of an electronic document and records management system. The study used the triangulation approach and established that the critical factors that have had an effect on the implementation of EDRMS were of a strategic, social and technical nature. The study also found similarities in the factors affecting EDRMS implementation within government and identified the need for further research focusing on how these factors differ between various types of organisations. The study argued that the effectiveness of an ERMS installation is not just determined by meeting deadlines and budget constraints but also by the capacity and willingness of individuals within the organisation to utilise the system efficiently once it is operational which highlights the importance of user acceptance and utilisation of the technology to achieving effective user buy-in and use. This study also delved into investigating the factors hindering government ministries from implementing ERMS considering the passage of time from when Kwatsha's study was conducted.

2.8 Gaps in Literature on Electronic Records Management Systems

From the literature reviewed above, notable gaps can be observed, gaps that this study delved to fill. The following are some of those gaps.

With regards to studies from the region on ERMS implementation, Shonhe and Grand (2020) sought to assess how Tlokweng Land Board (TLB) implemented its electronic records management program by using Kotter's model and ADKAR change model in Botswana. The study adopted a case study research design to collect data at TLB using a mixed methods approach to collect data using questionnaires, interviews, and document reviews. This study used findings from Tlokweng Land Board to generalise the landscape of ERMS implementation in Botswana. The situation in other government entities in are varied and different, therefore, generalising the findings was somehow misleading. Our study investigated the implementation of ERMS in all the 25 ministries in Zambia, this gives a clear picture of what is happening in government proper with regards to ERMS implementation.

Karlos and Nengomasha (2018)), also carried out a study that sought to assess the implementation of EDRMS in the public service in Namibia and Zimbabwe with a view of establishing the extent to which the initiative has been successful. Their study was very similar to our study. However, their study focused on assessing the success of the implemented ERMS. This study sought to understand whether government ministries in Zambia are already implementing ERMS considering the efforts and pronouncements government has made towards the deployment of ERMS and other e-government platforms.

In trying to understand the status of ERMS implementation in Zambia, Bwalya and Akakandelwa (2023) assessed the measures taken by the government to establish an integrated electronic records management system (IERMS) in the public sector of Zambia using a qualitative technique and applied a purposive sampling strategy to select a sample size of 11 key informants from important government ministries and units. Semi-structured interviews served as the primary data collection method, followed by thematic analysis. The gap in this study is that it only used key informants and overlooked the need to find out the views of registry and IT staff, these are very important as they are the ones who work on the ground and understand the difficulties of running physical records management systems. The current study is unique in that it is focusing on all the twenty-five (25) government ministries in Zambia with an exception to the ministry of defence and that focus was put on records and IT staff in the ministries as these are key in the implementation of ERMS in government ministries in Zambia.

Mautu et al. (2020) examined the obstacles that impede the use of ERMS in government departments in Zambia. However, their study obtained data from key informants from the Ministry of Finance (MoF), Smart Zambia Institute, Public Service Management Division (PSMD), Zambia Information Communication and Technology Authority (ZICTA) and National Archives of Zambia (NAZ) and thereafter generalising the results to the entire public service. The findings from this study would be difficult to apply to the entire public service as situations and conditions differ from institution to institution. For example, the situation at ZICTA could be different from what is obtaining at MOF given the fact that ZICTA is a statutory body while the MOF is mainstream ministries, therefore making generalisation of these findings misleading.

Further, there are very few studies done on ERMS implementation in Zambia with most studies focusing on other information systems and not systems applicable to records and registry management in government Ministries, systems such as ERMS. In trying to determine the knowledge levels of staff in the adoption of systems such as ERMS, the studies reviewed have

mostly focused on assessing knowledge levels of records staff. However, this study has included IT staff as these are key to ensuring that systems are proposed, developed, acquired, and implemented in government ministries and other organisations. Most of the studies on the subject were conducted before 2021 which thus calls for a timely investigating in assessing if most of the factors regarding ERMS implementation have remained the same.

2.8 Summary of Literature Review

With regards to the implementation of ERMS, the literature shows a similar status quo in countries around the region with most countries lagging. In Zambia, literature shows that the government ministries have not deployed ERMS. The literature review has also highlighted the many benefits of implementing ERMS in public service and highlighted the requirements for a successful adoption of ERMS. Literature reviewed on knowledge levels of registry and Information Technology staff shows a very strong linkage between the knowledge levels of staff and the enhancement of efforts to implement ERMS. The studies reviewed have mostly recommended an investment in staff skills and knowledge building with regards to the implementation of ERMS. The literature review also shows that most countries lack comprehensive policy frameworks to guide the implementation of ERMS, studies further recommend the development of such policies if ERMS is to be deployed and adopted. With regards to the factors hindering government from implementing ERMS, the literature has shown that many countries in the region face similar challenges with regards to the implementation of ERMS, the lack of adequate finances, equipment, policy framework and inadequate knowledge has detrimental effects on the prospects of implementing ERMS in government ministries. From the literature reviewed, there are some gaps.

One noticeable gap is that there are no studies that have conducted research on all the 25 government ministries in Zambia. Also, studies in other countries were based on segmented public sectors and not the entire public service. It is also evident that most of the studies that were reviewed as literature are biased towards e-government and not the deployment of ERMS. The other gap would be in the methodologies used. The bulk of the existing research has taken a quantitative approach and therefore there is a lack of rich insight and texture that a qualitative study could provide. Suggestions for further research would be that researchers should consider conducting studies that will look at the entire public service and not specific sectors. This would help give a broader picture of what electronic records management systems implementation in government ministries in Zambia entail.

CHAPTER THREE

METHODOLOGY

3.0 Overview

The methodology for this research was developed to provide a comprehensive and in-depth understanding of the implementation of Electronic Records Management Systems (ERMS) in government ministries in Zambia. This chapter serves as a roadmap in detailing the scientific procedures, methods, and techniques that will be used to gather, analyse, and interpret the data, thereby addressing the research questions and fulfilling the objectives of the study. The choice of methodology reflects the complex nature of the subject matter and the diverse range of factors that influence ERMS implementation.

3.1 Research Design

A survey research design was adopted for this study due to its multifaceted approach in allowing for a broad and deep exploration of the research subject (Freeman, 2008). The study combined both qualitative and quantitative methods within the survey research design and thus ensuring a balanced and comprehensive examination of the subject matter. Additionally, this was done to expand and strengthen the study's conclusions through gaining insight on objectives into the factors influencing action.

3.2 Target Population

The target population for this study was all the registry and IT staff in the twenty-five (25) government ministries in Zambia. From each Ministry, the following categories of respondents were targeted: Registry Staff - These are registry officers and clerks. These individuals work directly with registries and records management systems. Understanding the day-to-day use of ERMS relies heavily on their experience; Heads of IT Units- These are the technical experts in each Ministry responsible for overseeing all IT initiatives, including ERMS. Their role in implementing and maintaining ERMS is critical, and their insights are valuable for this study; Heads of Registry Units- These are the technical experts in each Ministry responsible for overseeing all records management activities undertaken and ensuring that set standards are upheld in records management, including ERMS. Their role is pivotal in implementing and maintaining ERMS, and their insights are valuable for this study.

3.3 Sample Size

A total of 118 individuals comprising of 30 key informants and 88 respondents (registry staff) were selected from all 25 government ministries in Zambia. One individual in charge of the IT and registry unit was selected as a key informant respectively. Additionally, 4 registry clerks or officers from each of the 25 ministries in Zambia were enumerated using questionnaires.

Table 1: Categories of respondents and sample size

Category	Participants per Ministry	Respondents/key informants
Heads of registry units	1	12
Heads of IT units	1	18
Registry officers or clerks	4	88
TOTAL	6	118

3.4 Sampling Technique

This study employed a purposive sampling technique to choose key informants, specifically the heads of the registry and IT units. Additionally, a random sampling method was used select registry staff (officers and clerks). The table below displays the respondents' classifications and the corresponding sample methods employed.

Table 2: List of Respondent Categories and Sampling Methods Used

SN	Sample	Sampling Method
1	Registry and IT Unit heads	Purposive
2	Registry Staff	Random

3.5 Data Collection Instruments

In this study, questionnaires were used collect quantitative data from 88 respondents (registry clerks and officers).

while qualitative data from 30 key informants was collected using an interview guide this was to ensure that we tell a complete story from both key informants and registry staff about what is happening with regards to the implementation of ERMS in government ministries. Table 3.4.2 highlights the sample categories and data collection methods used.

Table 3: Interview Sample and Data Collection Instrument

SN	Sample	Data Collection Method
1	Registry and IT unit Heads	Key informant face to face Interviews
2	Registry Staff (officers and clerks)	Self-administered Questionnaires

3.5 Data Collection Procedures

The questionnaires, serving as a primary tool for quantitative data collection, were distributed to the respondents in both electronic and hard copy formats. This dual approach ensures accessibility and convenience for all participants, regardless of their technological capabilities or preferences. In recognizing that the quality of responses may be affected by constraints, adequate time was allocated for the completion of the questionnaires and reminders were strategically sent to encourage timely participation without intrusion. In addition to questionnaires, interviews played a vital role in the collection of qualitative data and thus, the scheduling of interviews was handled with great care, considering the availability and preferences of the respondents. Flexibility was maintained in the mode of conducting interviews, with options including in-person meetings, telephone conversations, or online platforms. Regardless of the chosen mode, all interviews were recorded with the express consent of the participants as seen from the letter of consent attached.

3.6 Data Analysis

The quantitative data obtained from the questionnaires from registry officers and clerks underwent rigorous analysis SPSS version 26 for analysis of the descriptive statistics. The analysis of qualitative data, collected from interviews through interviews was thematically analysed using excel. The transcription of the in-depth interviews or any field notes was complemented by importing into Excel for generation of frequencies, graphs, charts and tables for easy data presentation and interpretation.

3.7 Ethical Considerations

The principle of informed consent was central to this ethical framework. All participants received detailed information about the study, encompassing its purpose, procedures, potential risks, and anticipated benefits. The researcher ensured transparency to enable participants to make informed decisions about their involvement and secured written consent to formalize

their agreement. Confidentiality was another cornerstone of the ethical approach. The report implemented robust measures to safeguard the privacy of participants' information by storing all collected data in secure locations, strictly limiting access to authorized personnel. Anonymity was maintained in all presentations of the results, ensuring that individual participants could not be identified. The participants' right to decline participation or withdraw from the study at any point, without facing any negative consequences, reflects their respect for autonomy. Finally, the research adhered to all relevant laws, regulations, and ethical guidelines. This adherence includes obtaining the necessary approvals from appropriate ethical review boards. Compliance with these standards not only fulfils legal obligations but also reinforces the integrity, credibility, and social responsibility of the research.

3.8 Reliability and Validity

Reliability refers to the consistency of measures and how replicable they are; that is, the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects (Dawson, 2009). To ensure validity and reliability, the data collection instruments were peer reviewed by experts in this case it was done by the UNZA Ethics Committee that provided a letter of approval for the study. To test the validity of the questionnaire and interview guide, the instruments were pilot tested using 5 respondents. The respondents on whom a test was run gave feedback which allowed the study to correct the questionnaire and interview guide where it was necessary. The tests were done on 3 consecutive times, a final test ran smoothly and finally, the questionnaire was distributed to the 88 respondents and interviews conducted on 30 key informants.

3.9 Summary

This study adopted a survey research design to explore the implementation of Electronic Records Management Systems (ERMS) in Zambia. The target population consisted of registry and IT staff from 25 government ministries. The study employed a purposive and random sampling technique to select key informants, including registry and IT unit heads and registry clerks and officers. Data collection instruments included questionnaires, which were administered to registry staff, and interviews with the heads of registry and IT units. The study used a sample size of 118 individuals, with 30 key informants and 88 registry staff selected from all 25 ministries. The researchers used questionnaires to collect quantitative data from 88 respondents, while interviews were conducted with registry and IT unit heads to gather

qualitative data. The study used questionnaires and interviews for both quantitative and qualitative data collection. The questionnaires were distributed in both electronic and hard copy formats, ensuring accessibility and convenience for all participants. Interviews were scheduled carefully considering respondents' availability and preferences, and all interviews were recorded with their express consent. The quantitative data was analysed using SPSS V26 while the qualitative data was thematically analysed using Excel. Ethical considerations included informed consent, confidentiality, anonymity, and the right to decline participation or withdraw without negative consequences. The research adhered to all relevant laws, regulations, and ethical guidelines, ensuring compliance with legal obligations, and reinforcing the integrity, credibility, and social responsibility of the research. Reliability and validity were ensured through peer review by experts, such as the UNZA Ethics Committee. Pilot tests were conducted with five respondents for the questionnaire and interview to ensure validity and reliability.

CHAPTER FOUR

PRESENTATION OF THE FINDINGS

4.0 Overview

This chapter presents the findings of the study. Data was collected through questionnaires and face-to-face interviews. The presentation of the data is done according to the way the questions were structured on the interview schedules following the study objectives and as per the respondents' categories.

4.1 Respondent and Key Informants' Response Rate

The response rates for questionnaires as calculated by the number of Ministry employees who completed the questionnaires divided by the number of people who were eligible was 88 % (88 out of 100) while that of interviews was 60% (30 out of 50) of the eligible respondents being interviewed. The table below shows the respondents response rate.

Table 3: Respondents and Key Informants Response Rate

	Respondents Response Rate	Percentage %
Registry and IT Unit Heads	30	60%
Registry Officers or Clerks	88	86%
Total	118	78%

4.2 Demographics of the Respondents

A total of 30 interviews were conducted for key informants. The key informants included registry and IT unit heads. The interviewed unit heads included senior registry officers, chief registry officers, senior ICT officer, Programmer Analyst and systems development officers.

In terms of quantitative data, a total number of 88 questionnaires were filled in by registry staff. The pie chart below details the positional breakdown of the questionnaire respondents, with a significant representation of registry officers.

Breakdown of Questionnaire respondents

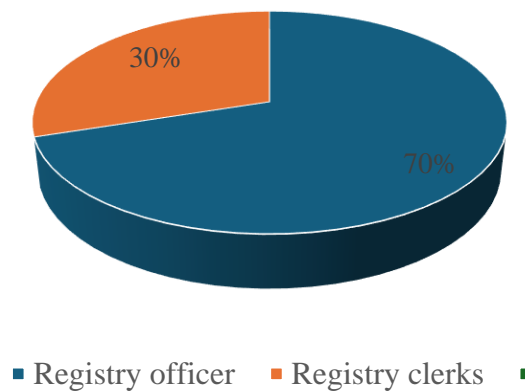


Figure 2: Positional breakdown of registry staff

The study encompassed 28 registry clerks and 60 registry officers which accounted for about 30% and 70 % respectively.

4.3 Extent of Electronic Records Management Systems Implementation in Government Ministries

Registry staff were asked to state whether their Ministry has implemented an electronic records management system (ERMS). Majority of the respondents 66 (75 %) said that their Ministry did not implement any ERMS, 13(15 %) indicated that they were not sure whether their Ministry was implementing ERMS. On the contrary, 9 (10 %) of the respondents indicated that their ministry implemented ERMS.

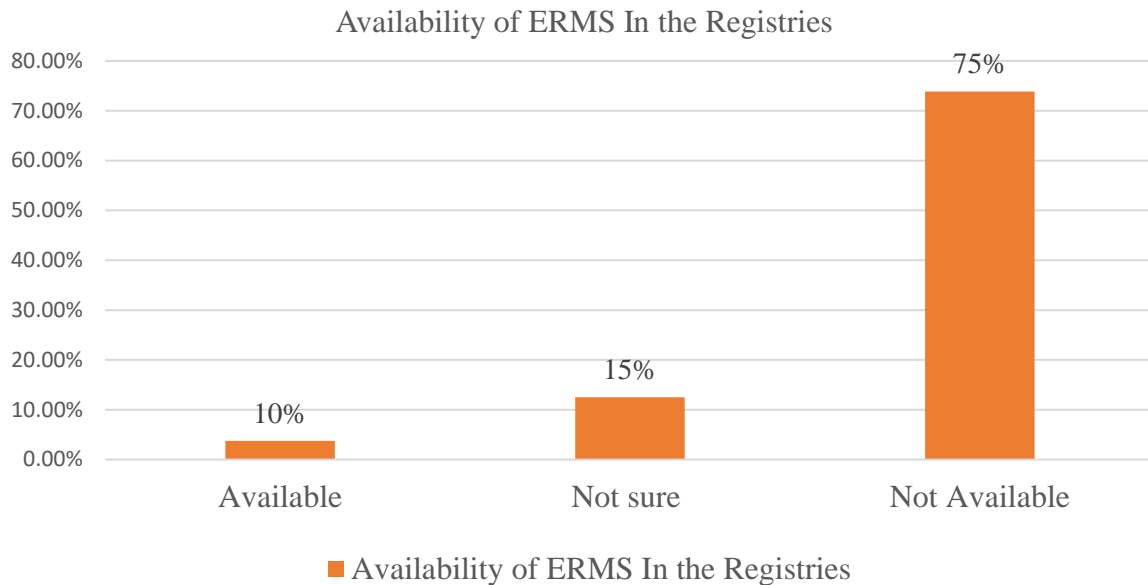


Figure 4: Availability of ERMS in Ministries

Similarly, the heads of registry and IT units were asked to indicate the status of ERMS implementation in their respective ministries. All the interviewed respondents indicated that they were not implementing ERMS in their ministries. The following were some of the responses:

Participant HR (07) said:

“At the moment, we are not using any electronic systems for managing records in our ministry, we are waiting for guidance from the government through smart Zambia, and everything is done manually from processing of incoming mail to circulation of files and other activities in the registry.”

Interviewee HR (18) also indicated that:

“Our registry is manual, there is no system [electronic] used now, everything is done manually we try to put the index in excel so that we can search for file numbers and the lists for circulation, but anyway it is still physical.”

Participant HIT (3) submitted that:

“I am not aware of any specific electronic system used in the registry or the ministry for records management, if there was something, we from IT would have known first.”

Further, the registry staff who answered yes to the previous question in the questionnaire were required to indicate what type ERMS their Ministry was implementing. Out of these, 5 (8 %) indicated that they use the following ERMS: DHIS, Smart care, Vici docs and Lands Deed Registry System. Additionally, the registry staff were required to indicate how long they had used ERMS in their Ministries if they answered yes to question one. Two respondents indicated that they started using the systems in 2019 and 2018 while the rest did not provide a response for the question.

It can be noted from the above that most of the respondents indicated that their ministries were not implementing ERMS. However, respondents who said they were implementing ERMS did not have concrete information about the systems as most of them could not state what type of ERMS used and when they started using them. This shows that there is no ERMS being implemented.

Respondents were asked to state how the unavailability of ERMS in their Ministry has affected their overall efficiency. The chart below summarises the responses:

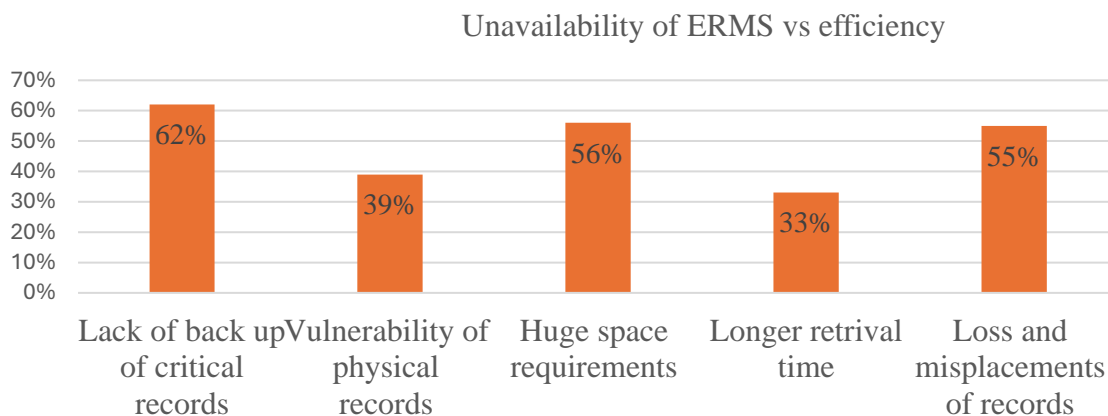


Figure 5: Unavailability of ERMS and Efficiency

Similarly, registry and IT heads of unit who said they were not implementing ERMS in their Ministry were also asked to describe how the lack of ERMS has affected registry efficiency. The three most significant issues that emerged from the findings are loss or misplacement of records, longer retrieval time and Vulnerability of records to environmental factors. The interviewees revealed the following:

Interviewee HR (5) said:

“Records can easily get flooded or burnt, so having electronic records systems is better, physical Records easily get damaged due to wear and tear and Files get ripped and tone by users.”

Participant HR (8) submitted:

“Taking time to find documents and tracking of files is very difficult especially when they move the file without informing the registry. It would be nice to have a system so as to improve tracking of records. Space is also a problem, just look around and you will see all these boxes for old files, it’s really a challenge.”

Participant HIT (12) also said:

“It takes a long time for you to find things with a manual system”. For you to get a record you have never used in a long time, it becomes difficult, but if there was a systems in place all you do is search and the location will be given to you”.

From the data collected above, it can be noted that the lack of ERMS in government ministries affects the overall efficiency of registries because of these reasons; records are easily lost, staff have difficulties to retrieve the records, huge storage space requirements and equipment, Vulnerability of records to environmental factors and Lack of back up on records.

In summary, findings reveal that registries in government ministries are paper based or manual. No electronic records management systems were being implemented. Only a few ministries such as Justice, Lands and Natural Resources and Health are implementing some form of systems to supplement the manual records systems. However, the systems mentioned are not ERMS, they are information systems adopted in selected departments of the ministries.

4.4 Policy Framework Availability

Registry staff were asked to state whether they had a policy framework governing ERMS implementation in their Ministry. Figure four 4.4 below shows the responses:

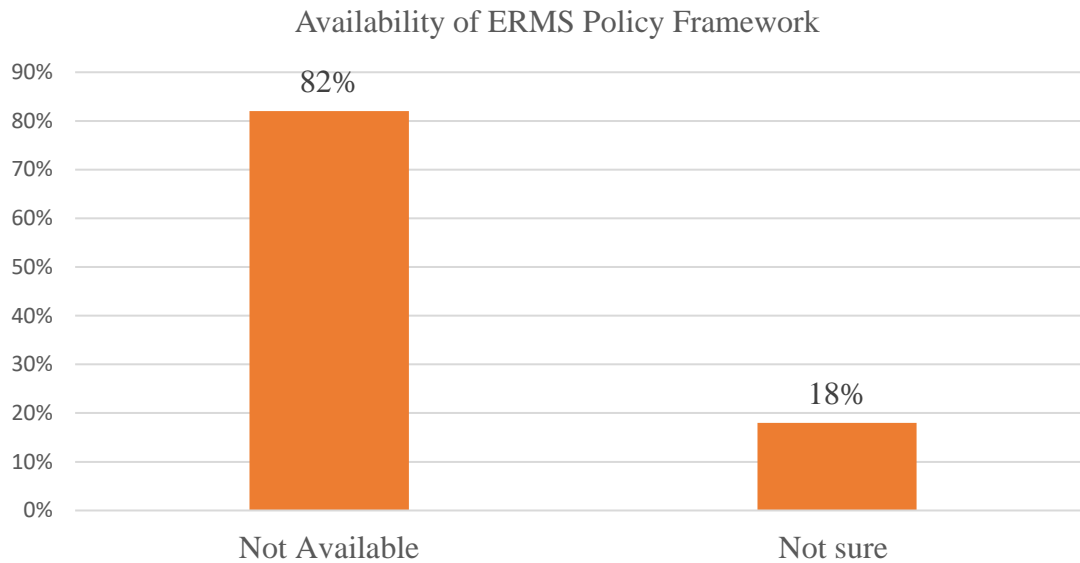


Figure 6: Availability of ERMS Policy Framework

Results reveal that, the majority 69 (82%) respondents answered no to the question whilst 15 (18%) answered not sure to the question. From the information gathered above, it can be noted that there was no ERMS policy framework across the government ministries in Zambia. The respondents were further asked to describe how the Policy on ERMS was being implemented in their Ministry. Since no respondent answered yes to the question, there were no responses to be presented on the question.

Similarly, registry and IT unit heads were also asked to state if there is any specific policy on ERMS in their Ministry. Results reveal that all the respondents said there was no policy available. Therefore, the subsequent questions in the interview guide were not asked.

4.5 Assessment of Knowledge Levels of Registry and IT Staff on ERMS

The registry staff were asked to state how they would rate their knowledge levels ERMS. The findings revealed that most registry staff 53(64%) rated the knowledge levels on ERMS in the Ministry as very poor. Other respondents 22(26%) said the knowledge is average while 9 (11%) indicated that their knowledge level was poor as shown in figure 7 below:

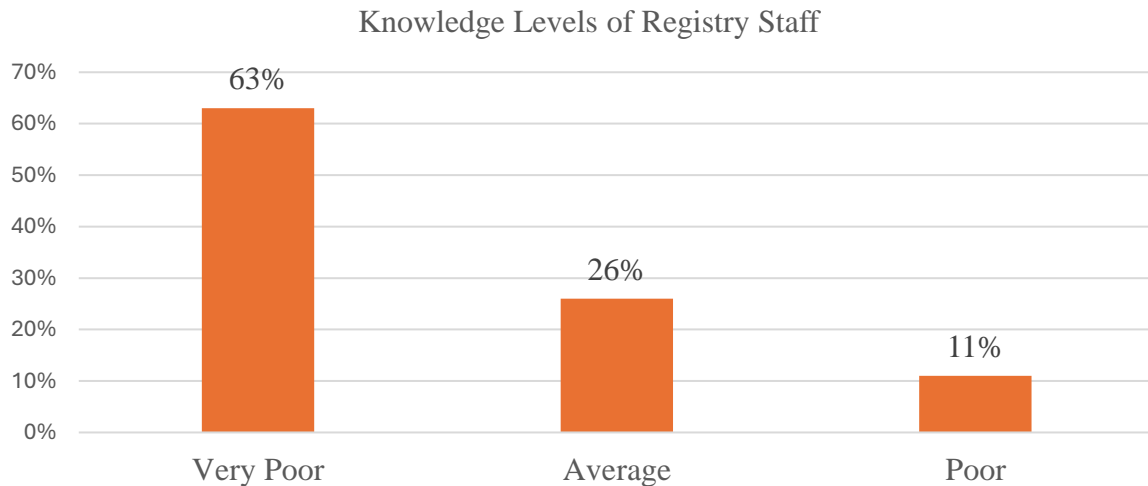


Figure 7: Knowledge levels of Registry Staff on ERMS

From the above findings, it can be noted that the registry staff were not knowledgeable about ERMS.

Registry heads of unit were also asked to state the knowledge and skills levels of themselves and their staff on ERMS. Findings revealed that the most popular issue to emerge from the answers given is that the knowledge levels on ERMS were inadequate. The following were some of the responses:

Participant HR (16) said that:

“We do not know much about ERMS in the registry, people in IT are supposed to teach us, but we are now being encouraged to use outlook by people from smart Zambia. They have created email addresses and passwords for us, apart from that, I have no information.”

Participant HR (2) also submitted that:

“We have little knowledge about these things, we just hear about them from people, and I have no proper knowledge and skills in this area, I have seen some minutes for training being conducted by ZARMA on electronic records, but I have never attended.”

Similarly, findings from the IT unit heads who were also asked the same question as the registry unit heads revealed that their knowledge levels on ERMS was equally inadequate. The following were some of the responses:

Participant HIT (3) indicated that:

“My team members in IT are not very knowledgeable, it is because we do not practice, and there is no equipment and software here, as a professional you can have information about something being available on the market, but when you don’t get a chance to sample it, it becomes a challenge, so for now, I can say the knowledge is inadequate”.

Participant HIT (6) also said:

“People might have knowledge but can just not practice due to circumstances, besides we have been sending our staff for workshops, I guess they have gained some knowledge, plus the knowledge they get from school”.

Participant HIT (11) also indicated that:

“Smart Zambia is now deploying staff to introduce systems; we are yet to learn from them when they come to my ministry, otherwise we look forward to learning more about ERMS and how it can help our friends in the registries.”

From the information above, it can be noted that most of the key informants (registry and IT unit heads) felt that their knowledge levels on ERMS were not knowledgeable about ERMS, a similar finding was revealed with registry staff.

Additionally, registry staff were asked to state what training or support is provided to enhance knowledge and skills in ERMS. Findings reveal that the most registry staff 71(83%) indicated that no support or training was given with regards to staff gaining knowledge in ERMS. The rest 14(17%) indicated that training and support was occasionally given as shown in table 5 below:

Table 5: Responses from Questionnaires on Training and Support

Training for ERMS	Number of Responses from Registry Staff	Percentage
Training and support were occasionally given	14	17%
No training and support were given	71	83%

Further, registry and IT unit Heads were also asked to state how skills on ERMS are developed and maintained in their ministries. Results reveal that majority of the interviewed respondents said there is no strategy for maintenance and development of skill on ERMS while others said there was some kind of strategy on how to maintain and develop ERMS skills among staff in the ministries.

On the theme of no strategy on training and skills development not being available, the following were the response:

Interviewee HR (4) said that:

“This question does not apply to us, maybe those in IT since we have no ERMS training for registry staff is never considered priority and we are never considered for such training, so the skills are never developed”.

Participant HIT (7) also submitted that:

“There are some short courses that can be done in IT and online trainings that can help, but we have to pay for ourselves, which is difficult, maybe the ministry can deliberately be sending such to trainings offered by service providers in ERMS”.

Others reported that they had occasional training and skills development submitted as follows:

Participant HIT (11) said:

“We have long team trainings and short team trainings such as Workshops, onsite mentorships in IT. As a Ministry, we have training programs for staff that is how we maintain and develop the skills.”

HIT (1) also submitted that:

“We ensure that our staff attend relevant workshops and trainings in their area of work, there are some training programmes, but once an officer returns from training, and there is no chance to practice”.

From the information gathered above, it can be noted that most of the respondents felt that skills in ERMS are never developed and maintained across the government ministries in Zambia.

4.6 Factors Hindering the Implementation of ERMS in Government Ministries

The respondents were asked to describe any specific factors hindering the ministries from implementing ERMS in their registries. Results revealed that 77(90%) of the respondents reported inadequate finances, whereas 25 (30%); 17(20%) of the respondents reported that resistance to change and inadequate knowledge poses as hindrances to implementing respectively. Further, 8(10%) of the respondents reported lack of will from management and government at large as hindrances from implementing ERMS in ministries. The pie chart below shows the description of factors hindering the implementation of ERMS in government ministries as described by registry staff:

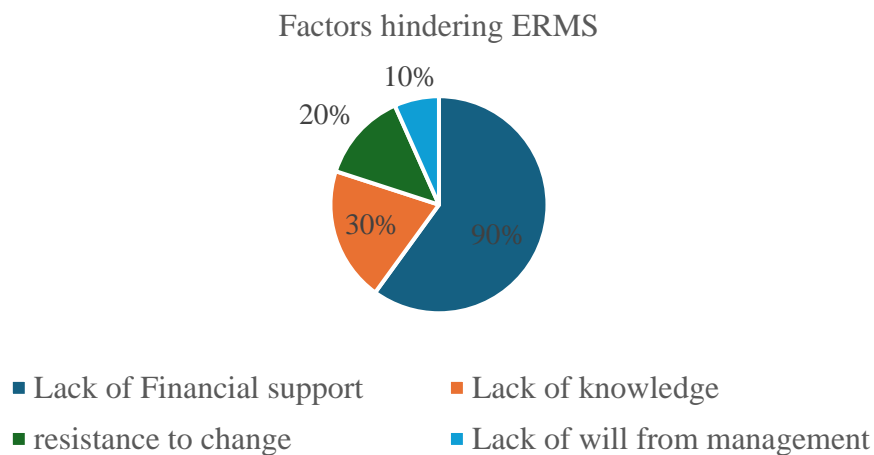


Figure 8: Factors Hindering ERMS Implementation

Similarly, the registry and IT unit Heads were asked to state specific barriers or factors hindering the use of ERMS in ministries. Findings from interviews reveal that the most significant barrier to implementing ERMS was financial constraints and lack of equipment availability and lack of policy framework on ERMS. Other barriers included staff resistance, and lack of knowledge and expertise. The following were the responses:

Participant HIT (5) said,

“Money is the biggest problem; we have no budget allocation for software and hardware for records systems, having minimal funding allocating to training needs for the staff members of the ministry is also a problem”.

Participant HR (16) said:

“Equipment is the biggest challenge, as you can see, there are no computers for registry staff, there is need to buy computers, they are yet to procure the equipment, and they should stop employing unqualified people in the registry, they should bring people who understand records management.”

Participant HIT (17) further stated that:

“We are not sure of what to do, there is no guidance from smart Zambia or anyone about the issue of records system, we don’t know where to start from, and otherwise we are very much willing to implement the system if given. The registry people should get organised and push for budget allocation.”

From the information gathered above, it can be noted that funding and lack of IT equipment were the most prominent barriers to ministries implementing ERMS. Other barriers include lack of training and employing of unqualified staff in the registry.

Further, interviewed registry and IT unit Heads were also asked to explain what role organisational culture and leadership plays in the success or failure of implementing ERMS. Findings reveal that all the respondents agreed that organisational culture and leadership plays a critical role in implementing ERMS.

The following were some of their responses:

Participant HIT (4) said:

“It plays a vital role as without management support you cannot implement systems without a buy in from management or a directive from the minister or cabinet, all they need to do is to give a directive and allocate a budget towards it.”

Participant HR (17) stated that:

“Some leaders do not know the importance of records management that is why they don’t support anything to do with registries, we do not receive much support as compared to other units such as planning and IT units.”

Participant HIT (12) also submitted that:

“Very big role. Leadership has a bearing, and the leadership must be willing to implement, and should fight for funds, we know that finances are difficult to secure, but

maybe the smart Zambia leadership can work with partners to help come up with a system that can be piloted in ministries like they did at ministry of lands”.

From the information gathered above, it can be noted that leadership and organisational culture plays a critical role in enhancing the implementation of ERM.

4.7 Summary

Chapter 4 has provided a presentation of finding on the implementation of Electronic Records Management Systems (ERMS) in s government ministries in Zambia. The study aimed to understand the extent of electronic records management systems (ERMS) implementation in government ministries in Zambia. Findings revealed that the response rate for questionnaires was 88 out of 100, while interviews were 30 out 50 of eligible respondents. The majority of respondents (76%) stated that their ministry did not implement any ERMS, with 12% uncertain about its implementation. However, 11% indicated that their ministry implemented ERMS. The heads of registry and IT units also indicated that they were not implementing ERMS in their respective ministries. The unavailability of ERMS in their ministries affected overall efficiency, with three significant issues emerging: loss or misplacement of records, longer retrieval time, and vulnerability of records to environmental factors. The survey revealed that there is no ERMS policy framework in Zambia's government ministries, with 82% of respondents stating no and 18% not sure. Registry and IT unit heads also stated that there was no specific policy on ERMS in their respective ministries. The knowledge levels of registry staff and IT unit heads on ERMS were also found to be very poor, with 63% rating their knowledge levels as very poor. This indicates that the staff are not knowledgeable about ERMS. Registry heads of unit also expressed inadequate knowledge levels, with some stating that they have little knowledge about ERMS due to lack of practice and equipment. Many registry staff (83%) reported that no support or training was provided to enhance knowledge and skills in ERMS. The rest (17%) indicated that training and support were occasionally given. The survey highlights the lack of a policy framework and inadequate knowledge levels among key informants, including registry and IT unit heads. Most respondents in a survey on the development and maintenance of skills on Electronic Records Management System (ERMS) in Zambian government ministries stated that there is no strategy for such skills development. Some suggested that short IT courses or online trainings could be beneficial, but the cost of these could be a barrier. Other respondents mentioned occasional training programs for staff, such as workshops and onsite mentorships.

Factors hindering the implementation of ERMS in ministries included inadequate finances, resistance to change, and lack of knowledge. The most significant barriers were financial constraints, lack of equipment availability, and a lack of policy framework on ERMS. Other barriers included staff resistance, lack of knowledge, and lack of expertise.

CHAPTER FIVE

DISCUSSION AND INTERPRETATION OF FINDINGS

5.0 Overview

This chapter presents the discussion of the findings presented in chapter 4. It is structured into four sections namely, ERMS Implementation in Ministries, Policy Framework for the Implementation of Electronic Records Management Systems, analysis of Knowledge Levels on ERMS and factors hindering ERMS implementation. These discussions are designed to directly align with the study's specific objectives, offering insights into the adoption and effectiveness of ERMS within the Zambian government ministries, and drawing connections with the earlier literature review.

5.1 Implementation of Electronic Records Management Systems

As the findings from this study revealed that all government ministries have not implemented ERMS, although 11 % of the respondents indicated the availability of ERMS in their ministries with 30 key informants who were interviewed reporting not having implemented ERMS. This discrepancy between respondents indicated a significant gap in knowledge and communication within the ministries.

The few respondents who indicated the use of ERMS such as District Health Information Software, Smart Care, Vici Docs, and Lands Deed Registry System are not ERMS. There is a lack of detailed knowledge about these systems was evident, as most could not specify when they started using these systems or their functionalities in depth. The lack of ERMS in government ministries affects the overall efficiency of registries due to the loss or misplacement of records, longer retrieval time, and huge storage space and equipment vulnerability of records to environmental factors and lack of back on records as indicated by both registry staff and key informants when asked how the lack of ERMS affects their efficiency. This aligns with the findings of Bwalya and Akakandelwa (2023) and Mautu et al., (2020) who concluded that Zambia has not yet adopted ERMS in its ministries and other public bodies which has profound implications on operational efficiency. Respondents highlighted several issues including loss or misplacement of records, longer retrieval times, and vulnerability to environmental factors, all of which significantly hamper the efficiency and effectiveness of record management. In other countries, Shibambu and Marutha 2021,

established that the government departments under investigation still lacked the requisite tools such as policies, standards, guidelines, adequate technological infrastructure, and that there was also a lack of sufficient funding and skills and competencies to effectively deal with electronic records. A situation that is similar to the findings of this study.

5.2 Policy Framework for the Implementation of Electronic Records Management Systems

The research findings also indicated a notable absence of a dedicated policy framework for ERMS in the Zambian government ministries with 81 % of registry staff indicating that there was no policy framework on ERMS in their respective ministries. Similarly, all the registry and IT unit heads indicated there was no ERMS in place in their respective ministries. This absence is significant as it causes misalignment with the broader governmental initiatives for instance the E-Governance Act, intended to enhance efficiency and accountability in public service delivery. This is in line with Tsabedze (2020) whose study in Eswatini recommended improvement of the e-records management policy framework and creation of awareness about management of e-records and regular training for records officers. Comparing Zambia's situation with other countries, it's evident that the challenges and successes in ERMS policy frameworks vary.

Similarly, the TOE model in its environment construct talks about government regulations as determinants for readiness in the adoption of new technological innovations in organisations. In this regard government ministries in Zambia also need to develop and implement suitable policy frameworks that align to broader government regulations such as the governance act. the absence of a cohesive policy framework in Zambia affects various aspects of ERMS implementation, which further hampers the standardisation of processes, leading to confusion among stakeholders, and slow implementation of ERMS. This is also in line with the findings from Kemoni and Kemoni (2018) who recommended a framework for effective management of e-records in support of e-government implementation.

5.3 Knowledge Levels of Registry and Information Technology (IT) Staff on Electronic Records Management Systems

Findings revealed that 53 (63%) of registry staff rated the knowledge levels on ERMS in the Ministry as very poor, while 22 (26%) rated their knowledge as poor with 9 (11%) rating their knowledge as average. This aligns with the findings from registry unit heads where findings revealed that most registry unit heads stated that their knowledge levels on ERMS was

inadequate. Similarly, findings from the IT unit heads also revealed that many IT unit heads said that their knowledge levels on ERMS was inadequate. The lack of knowledge indicated a predominant lack of understanding and familiarity with ERMS among the staff in these ministries which was further exacerbated by the lack of proper training or support provided for ERMS. Most respondents indicated no dedicated training programs or initiatives focusing on enhancing ERMS proficiency. For the few cases where training was mentioned, it was either sporadic or lacked follow-up and practical application. The low levels of knowledge and training among staff have direct implications for the successful implementation of ERMS including challenges in effectively utilizing these systems, leading to issues like poor configuration, inefficient use, and even resistance to adopting new technologies.

Newa (2019) for instance argued that efficiently handling electronic records requires having a competent workforce. Due to the growing prevalence of electronic records, it is thus necessary to revise academic programmes that educate and train record managers. Successful execution of e-records management requires the presence of highly competent and motivated individuals. The significance of competencies, incentives, and supporting infrastructure in the implementation and assimilation of electronic records is evident. Mukred and Yusof (2018) emphasized the importance of technical competence in educational institutions and found a strong correlation between staff skills and effective operation of ERMS.

Absence of specialised knowledge is also highlighted as a key ingredient in the TOE model (Lee et al., 2014). Technological readiness in terms of knowledge is critical in the adoption of new technologies in organisations. Therefore, Public organisations such as government ministries in Zambia also need to invest in staff knowledge on ERMS and other electronic system to ensure successful ERMS implementation and adoption.

5.4 Factors Hindering the Implementation of Electronic Records Management Systems

To determine the factors hindering Ministries from implementing ERMS, the findings revealed that most of the responses from registry staff (90 %) suggested financial constraints as the major hindrance while others suggested lack of knowledge, resistance to change and lack of will from management and government. Similarly, the majority of registry and IT unit heads pointed out the high costs of commercial ERMS modules and the absence of dedicated budgets for these systems, lack of policy framework, inadequate knowledge, and staff resistance. This mirrors findings from similar studies including those of Balogun (2019) which included these

as the major reasons for adoption, while reasons for non-adoption included vulnerability to attack, high cost of implementation and digital illiteracy of staff members.

Further, The World Bank in their Digital Economy Diagnostic Report for Zambia prescribed an enabling environment, policy and legal framework, technical skills, and capacity building as ingredients for a digital transformation in Zambia. Implementation of ERMS in government ministries can be said to be one of the needed digital transformations in the public sector (World Bank 2022).

In the TOE model, constructs include two key factors. Firstly, top management support refers to the endorsement of the information system adoption initiative by senior executives. Secondly, organizational readiness to adopt new technologies is determined by the size, cost, financial, and technical resources available (Kanabiran, 2012). This is very relevant to understand the findings of this study which also revealed that most of both registry staff and key informants indicated that factors hindering ERMS implementation in government ministries are: lack of financial resources, lack of equipment, lack of policy framework and technical knowhow among staff.

5.5 Summary

This chapter discussed and interpreted the major findings for this study. The study found that all government ministries in Zambia have not implemented Electronic Records Management Systems (ERMS), despite 11% of respondents indicating the availability of ERMS in their ministries. The lack of ERMS affects the efficiency of registries due to issues such as record loss, longer retrieval times, and vulnerability to environmental factors. The absence of a dedicated policy framework for ERMS in Zambian government ministries is significant, as it causes misalignment with broader governmental initiatives like the E-Governance Act. This lack of a cohesive policy framework hampers the standardization of processes, leading to confusion among stakeholders and slow implementation of ERMS. Government ministries in Zambia need to develop and implement suitable policy frameworks that align with broader government regulations, such as the governance act. This study highlights the need for a framework for effective management of e-records to support e-government implementation. The study reveals that 63% of registry staff and IT staff in Zambia have very poor knowledge levels on Electronic Records Management Systems (ERMS), with 26% and 11% rating their knowledge as poor. This lack of understanding and familiarity with ERMS is exacerbated by the lack of proper training and support provided for ERMS. Most respondents indicated no

dedicated training programs or initiatives focusing on enhancing ERMS proficiency. The low levels of knowledge and training have direct implications for the successful implementation of ERMS, leading to issues like poor configuration, inefficient use, and resistance to adopting new technologies.

Factors hindering the implementation of ERMS include financial constraints, lack of knowledge, resistance to change, lack of will from management and government, high costs of commercial ERMS modules, lack of dedicated budgets, lack of policy framework, inadequate knowledge, and staff resistance. The World Bank's Digital Economy Diagnostic Report for Zambia prescribes an enabling environment, policy and legal framework, technical skills, and capacity building as ingredients for a digital transformation in Zambia. Implementation of ERMS in government ministries can be considered one of the needed digital transformations in the public sector.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 Overview

This chapter concludes the study by summarising its key findings and offering strategic recommendations for the implementation of Electronic Records Management Systems (ERMS) in Zambian government ministries. The chapter summarises the insights gathered from the 25 government ministries, reflecting on the impact these findings have on the broader landscape of digital governance and records management. It also proposes actionable steps that can be taken to enhance the implementation of ERMS in the public sector.

6.1 Conclusion

The study concluded that there is no ERMS deployment in government ministries in Zambia which has significant implications for records management and governance in the Zambian government sector. The successful implementation of ERMS has the potential to significantly enhance operational efficiency within government ministries. By transitioning from paper-based to digital systems, ministries can streamline processes, improve data accessibility, and reduce the time and resources spent on records management. ERMS can play a crucial role in improving transparency and accountability in governance as digital records are easier to track, audit, and manage, which can help in reducing cases of lost or mishandled records, thereby enhancing the overall integrity of governmental operations. With ERMS, ministries have better access to accurate and updated information. This access to quality data can lead to more effective policy formulation and implementation.

The study also concluded that staff both registry and IT were not knowledgeable about ERMS. The lack of knowledge and skills significantly impacts the success of ERMS implementation. Organisations with higher levels of staff knowledge, often due to targeted training and continuous engagement with ERMS tend to exhibit better implementation and utilization of these systems. Staff knowledge and skills on ERMS is thus a critical catalyst to ERMS implementation.

Furthermore, the factors hindering effective ERMS implementation in government ministries in Zambia were financial constraints, equipment limitations, and absence of a clear and comprehensive policy framework. Other factors included resistance to change and lack of will

from management and the government. The study concludes on the need for standardized policies, aligned with broader governmental regulations and for successful, consistent, and effective ERMS implementation. Lack of a coherent policy framework as a significant barrier to digital transformation in government ministries. This lack of alignment further hampers the holistic integration of ERMS within the government's digital infrastructure.

6.2 Recommendations

The study recommended the following measures to the government of Zambia to enhance ERMS implementation in ministries. In this regard, government should:

- i. develop and adopt a comprehensive policy framework to guide the implementation of ERMS;
- ii. implement an extensive training program to staff as the success of ERMS heavily relies on the staff's knowledge and skills levels. Therefore, comprehensive training programs are essential;
- iii. prioritize ERMS acquisition and adoption in their budget planning, seeking additional funding opportunities, such as partnerships with technology providers or grants; and
- iv. allocate sufficient budgetary resources for the acquisition of equipment, software, and other key requirements in ERMS implementation.

References

- Ab Aziz, A., Yusof, Z.M. and Mokhtar, U.A. (2019).Electronic document and records management system (edrms) adoption in public sector-instrument's content validation using content validation ratio (CVR).*Journal of Physics: Conference Series*. Indonesia: Palembang, pp. 26–27. Available at: <https://doi.org/10.1088/1742-6596/1196/1/012057>.
- Abdulkadhim, H. *et al.* (2015).A research framework of electronic document management systems (EDMS) implementation process in government.*Journal of Theoretical and Applied Information Technology*, 81(3), pp. 420–431.
- Al-Hashimi, M. *et al.* (2017) .Address the challenges of implementing electronic document system in Iraq e-government- tikrit city as a case study. *Journal of Theoretical and Applied Information Technology*, 95(15), pp. 3672–3683.
- Al-Shbail, T. and Aman, A. (2018).E-government and accountability: How to mitigate the disorders and dysfunctions of accountability relationships. *Transforming Government: People, Process and Policy*, 12(2), pp. 155–190. Available at: <https://doi.org/10.1108/TG-09-2017-0057>.
- Alfresco Software Hyland. (2024). <https://www.hyland.com/en/products/alfresco-platform>
- Ambira, C.M., Kemoni, H.N. and Ngulube, P. (2019) .A framework for electronic records management in support of e-government in Kenya. *Records Management Journal*, pp. 305–319. Available at: <https://doi.org/10.1108/RMJ-03-2018-0006>.
- Asogwa, B.E. (2012).The challenge of managing electronic records in developing countries: Implications for records managers in sub Saharan Africa. *Records Management Journal*, 22(3), pp. 198–211. Available at: <https://doi.org/10.1108/09565691211283156>.
- Baker, J. (2011).*The Technology--Organization--Environment Framework*. 10.1007/978-1-4419-6108-2_12.

- Balogun, N.A. *et al.* (2019). Adoptability of electronic document management system in Ilorin businesses. *Nigerian Journal of Technology*, 38(3), p. 707. Available at: <https://doi.org/10.4314/njt.v38i3.24>.
- National Assembly of Zambia.,(2024). National Electronic Government. *National Electronic Government* [Preprint]. Available at: <https://doi.org/10.4324/9780203463079>.
- Bwalya, T. and Akakandelwa, A. (2023). An Assessment of Government Efforts Towards the Implementation of an Integrated Electronic Records Management System in the Zambian Public Service. *Zambia Journal of Library & Information Science*.
- Bwalya, T. and Mulundano, C. (2023). The Implementation of e-Government in Local Authorities in Zambia. *Zambia IT Journal*, 7(2), pp. 17–24. Available at: <https://doi.org/10.33260/zITjournal.v7i2.159>.
- Chirwa, F.J. (2015). *An investigation of the knowledge levels and practices of the records management staff in the Ministry of Education, Science and Vocational Training and Early Education Headquarters, Unza*. Dissertation. MLIS. University of Zambia. Available at: shorturl.at/pqvE7.
- Festus, U.P. and Nkezie, W. (2019). Electronic records management and national development : a case of Nigeria. *International Journal of Science and Management Research*, 5(2), pp. 35–57. Available at: https://www.researchgate.net/publication/342720651_Electronic_Records_Management_and_National_Development_A_Case_of_Nigeria.
- Gall, M. (2007). *Educational Research: An introduction*. 8th edn. Boston: Pearson/Allyn.
- Gelashvili, T. (2022) Going Paperless, Main Challenges in EDRMS Implementation: Case of Georgia. *International Journal of Humanities, Social Sciences and Education*.
- Hart, L. (2023, December 28). *5 examples of records management*. Content Management. <https://www.techtargget.com/searchcontentmanagement/tip/Examples-of-records-management>

- Heeks, R. (2017). *E-government in Africa: promise and practice*. Manchester: Institute for Development Policy and Management, University of Manchester.
- International Records Management Trust (IRMT) (2007). *Fostering trust and transparency in governance: a case study of Zambia*. Online. Available from: http://www.irmt.org/documents/building_integrity/case_studies/IRMT_Case_Study_Tanzania.pdf. (Accessed 26 March, 2020)
- Hmoud, H. *et al.* (2023). Factors influencing business intelligence adoption by higher education institutions. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(3), pp. 2199–8531. Available at: <https://doi.org/10.1016/j.joitmc.2023.100111>.
- Ismail, S. (2006). Detailed review of Roger's Diffusion of innovations theory and educational technology. *The Turkish Online Journal of Educational Technology*, 5(2), pp. 14–23. Available at: <https://files.eric.ed.gov/fulltext/ED501453.pdf>.
- Jacobs, L. and Lemekoana, T. (2022). Electronic Records Management at the Department of Justice and Constitutional Development, South Africa: Towards E-government, Mousaion. *South African Journal of Information Studies*. Mousaion: South African Journal of Information Studies. Available at: <https://doi.org/10.25159/2663-659x/9967>.
- Kamatula, G., & Kemoni, H. (2018). A framework for e-records in support of e-government implementation in the Tanzania public service. *Journal of the eastern and southern Africa*, 37, pp. 1–279. Available at: <https://doi.org/10.4314/ESARJO.V37I0>.
- Karlos, A.N.T. and Nengomasha, C.T. (2018). *Change Management: a Critical Factor for Successful Implementation of an Electronic Document and Records Management System (Edrms): a Namibian Case Study*. University of Namibia.
- Kaupa, S. and Chisa, K. (2020). Adoption of the Electronic Document Records Management System within the Public Sector in Namibia: Exploring the Challenges and Opportunities. *International Journal of Operations Management*, 1(1), pp. 7–18. Available at:

<https://doi.org/10.18775/ijom.2757-0509.2020.11.4001>.

Kennedy, L. and Craig, A.M. (2004). Global registries for measuring pharmaco-economic and quality-of-life outcomes: Focus on design and data collection, analysis and interpretation. *Pharmacoeconomics*, 22(9), pp. 551–568. Available at: <https://doi.org/10.2165/00019053-200422090-00001>.

Kwatsha, N. (2010) *Factors affecting the implementation of an electronic document and records management system*. Master of Philosophy Information and Knowledge Management Dissertation. University of Stellenbosch. Available at: <https://scholar.sun.ac.za/handle/10019.1/5152>.

Korpelainen, E. (2011). *Theories of ICT System Implementation and Adoption - A Critical Review*. Helsinki: Aalto Print.

Lukičić, M., & Sruc, V. (2009). Electronic records management system requirements. *Digital Resources and Knowledge Sharing*, 66 -74.

Malanga, D.F. and Kamanga, B.C.G. (2019). E-records readiness at Karonga DistrIT Council in Malawi: Applying IRMT E-Records Readiness Assessment Framework. *Information Development*, 35(3), pp. 482–491. Available at: <https://doi.org/10.1177/0266666918766971>.

Marutha, N.S. and Ngulube, P. (2012). Electronic records management in the public health sector of the Limpopo province in South Africa Records management and public service delivery in Kenya View project Records management, accountability and good governance View project. *Journal of the South African Society of Archivists*. Available at: <https://www.ajol.info/index.php/jsasa/article/view/85723>.

Mautu and others (2020). *Factors hindering the implementation of electronic records management systems in government departments in Zambia*. Dissertation. BALIS. University of Zambia.

Micheal, C. J. (2019). *Electronic Records: Definition, Principles, and Applications*. Retrieved June 20, 2020, from <https://www.ewsolutions.com/electronic-recordsdefinition->

principles-and-applications/

Mosweu, O., Bwalya, K. and Mutshewa, A. (2016).Examining factors affecting the adoption and usage of document workflow management system (DWMS) using the UTAUT model: Case of Botswana. *Records Management Journal*, 26(1), pp. 38–67. Available at: <https://doi.org/10.1108/RMJ-03-2015-0012>.

Mutsagondo, S. and Ngulube, P. (2019).Skills Impact Assessment of Personnel Managing Electronic Records in Zimbabwe’s Public Service, Mousaion. *South African Journal of Information Studies*. Available at: <https://doi.org/10.25159/2663-659x/3283>.

Nabombe, P. (2012) *An assessment of records management at the courts of law in Zambia: the case of court registries’ contribution towards access to justice*. Dissertation. MLIS. University of Zambia. Available at: <http://dspace.unza.zm/handle/123456789/1795>

National Assembly of Zambia, “/ministers/cabinet?page=2,” 2021 Retrieved from <https://www.parliament.gov.zm>

Nadia, S. and Wijayanti, S. (2017).Study on Implementation of Electronic Records Management System in Yogyakarta City Government Office. *Public Policy and Administration Research*, 7(4), pp. 61–68.

Nyampong, S.A. (2015).Electronic Records Management in National Development: A Case Study in Ghana Immigration Service. *European Journal of Business and Management* www.iiste.org ISSN, 7(10), pp. 120–145. Available at: www.iiste.org.

Olumoye, M.Y. and Govender, I. (2018).An empirical investigation of factors influencing integrated e-Government implementation in Nigeria: A case of housing and urban development agency. *Electronic Journal of Information Systems in Developing Countries*, 84(1). Available at: <https://doi.org/10.1002/isd2.12012>.

Oladejo, B., & Hadžidedić, S. (2021). Electronic records management – a state of the art review. *Records Management Journal*, 31(1), 74-88. <https://doi.org/10.1108/rmj-09-2019-0059>

- Patel, U. (2024, February 15). What Is Electronic Records Management? | Docupile. Docupile.
<https://www.docupile.com/what-is-electronic-records-management/>
- Princewill Lekara Bayo (2019). Technological Challenges in Management of Organizations. *International Journal of Business & Law Research*. Available at: https://www.researchgate.net/publication/333566590_Technological_Challenges_in_Management_of_Organizations.
- The Republic of Zambia (2019). Smart Zambia: Electronic government Master plan 2018-2030', 2018 --, 2030). Lusaka, Zambia. Available at: https://www.szi.gov.zm/wp-content/uploads/2022/01/eGOVERNMENT_Masterplan_v3.0.pdf.
- Shibambu, A. and Marutha, N.S. (2022). A framework for management of digital records on the cloud in the public sector of South Africa. *Information Discovery and Delivery*. Information Discovery and Delivery. Available at: <https://doi.org/10.1108/IDD-10-2020-0128>.
- Shonhe, L. and Grand, B. (2020) Implementation of electronic records management systems: Lessons learned from Tlokweng land Board-Botswana. *Records Management Journal*. Records Management Journal. Available at: <https://doi.org/10.1108/RMJ-03-2019-0013>.
- Smallwood, R. F. (2013). *Managing electronic records : Methods, best practices, and technologies*. New Jersey: John Wiley & sons, Inc.
- Tornatzky, L. and Fleischer, M. (1990). *The process of technology innovation*, Lexington, MA, Lexington Books. MA, Lexington Books: Lexington.
- The Republic of Zambia. Public Service Management Division. (2012). Public Service Records Management Policy. Lusaka: Government Printers.
- The United Nations. (2020). E-Government Survey 2020. New York: UN. United States Government Accountability Office. (2020, September 24). Records Management. Retrieved from HHS.gov: <https://www.hhs.gov/open/2016-plan/records-management.html>

- Tsabedze, V. and Kalusopa, T. (2018). Towards a Framework for E-Records Readiness in Support of E-Government in Eswatini. *ESARBICA Journal*, 37, pp. 39–68. Available at: <https://doi.org/10.4314/ESARJO.V37I0>.
- Tsabedze, V. and Ngoepe, M. (2021). A framework for quality assurance for archives and records management education in an open distance e-learning environment in Eswatini. *International Journal of Information and Learning Technology*, 38(1), pp. 91–102. Available at: <https://doi.org/10.1108/IJILT-03-2020-0033>.
- Tsabedze, V.W. (2020). *Managing Electronic Records in Higher Education Institutions*. Available at: <https://doi.org/10.4018/978-1-7998-1875-5.ch003>.
- Wilkins, J., & Wilkins, J. (2021, February 11). *What are the Drivers of Electronic Records Management (ERM)?* <https://info.aiim.org/aiim-blog/electronic-records-management-drivers>
- World Bank (2020). *Accelerating Digital Transformation in Zambia: Digital Economy Diagnostic Report*. World Bank, Washington, DC. <http://hdl.handle.net/10986/33806> License: CC BY 3.0 IGO.”