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Records management practices at the Northern Region Water Board, Malawi

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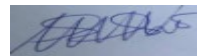
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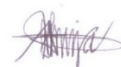Welani Humphrey Msosa   Signature   Date   27/07/2022

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ABSTRACT

As organisations grow, so does the volume of records they generate when transacting their business with the resultant large customer base. Studies show that organisations which do not have a properly coordinated record management system, irrespective of the business sector, experience various challenges such as delays in task completion, reduced service quality, failure in meeting statutory requirements, compromised document security and these challenges lead to inconsistent cash flows. The purpose of this study was to investigate records management practices at the Northern Region Water Board, an entity that was established under the Water Act (No. 17 of 1995) of Malawi to supply potable water to the urban and semi urban areas of the Northern Region of Malawi. The study aimed at determining records creation practices, determining records preservation strategies and investigating factors that affect records management at the Northern Region Water Board. The Northern Region Water Board is one of the public institutions in Malawi, hence the findings of this study may act as a basis in efforts to improve records management practices in similar organisations in the country.

The study adopted a qualitative case study that hinged on an interpretive approach. The study population comprised of Northern Region Water Board employees whose duties directly involve the creation and management of records through the daily operations of the institution. The purposive sampling technique was used in this study and only heads of sections were included in the sample. The sample size was 8. The data collection exercise ran for a period of eighteen days. This study employed an interview guide and an observation guide as tools for data collection. Data was analysed thematically. The findings of the study were that there are no formal records management policies at the Northern Region Water Board. The absence of the policies directly affects records creation practices at the institution in that there are no clearly written established guidelines for staff to follow on how to store the records they create on a daily basis. The study also noted that there are no established policies on the preservations of the records. While electronic records are mainly managed in the Board's ERP system and the ICT's disaster recovery plan, there are no strategies to properly preserve the paper-based records. However, the findings show that traditional measures are in place to mitigate the destruction of paper-based records. The offices are equipped with fire extinguishers to mitigate risks emanating from outbreak of fire. The paper-based records are also usually stored in lockable drawers, lockable cabinets and on elevated shelves. Older records are occasionally sent to offsite rented archiving storages, with no clear formal schedules. The main contributing factor to the state of affair is the absence of organisational policies to guide the records

management regime at the institution. The study recommends that the NRWB should develop and operationalise records preservation strategies, especially paper-based records which were observed to be at a particular risk. The study also recommends the establishment of formal guidelines for the management of records in the organisation.

ACKNOWLEDGEMENT

LIST OF ACRONYMS AND ABBREVIATIONS

ERMS   Electronic Records Management Systems

ERP   Enterprise Resource Planning

GDP   Gross Domestic Product

ICT   Information Communication Technology

ISO   International Standards Organization

NRWB   Northern Region Water Board

RMS   Records Management System

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CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.1. Introduction

Records management is a procedure of planning, controlling, directing and organizing information. Records management can also mean the process of organizing, storing and retrieval of data from any particular place (Borglund & Engvall, 2014).

The distinct characteristic of records is that records are items of information put into a temporary or permanent physical medium, while information includes things that are or can be known about a given topic or communicable knowledge of something. The term information refers to the data that has been processed, interpreted, organized, structured or presented so that it is meaningful or useful (Jayawickrama & Yapa, 2013). On the other hand, records refer to the information that has been created, received, and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business. Examples of records include final reports, emails confirming an action or decision, spreadsheets showing budget decisions, photographs or maps of field missions, which need to be kept as evidence (Jaakonmäki et al., 2018; Moseti, 2016).

Efficient records management involves the implementation of appropriate policies, procedures and practices of records. According to Yeo (2011), a good records management system (RMS) is one in which the records for several people or units are properly and securely stored and generally under the control of records management staff. A good RMS have a number of advantages which include data integrity, enhanced cross-referencing and collaboration between departments, increased efficiency of information flow, ease of staff training and enhanced records security among others (Borglund & Engvall, 2014). An effective RMS limits the generation of records or copies not required to operate the business and ensure that there is a system for destroying useless records or retiring inactive records thus stabilizing the growth of records in all formats (Appiah et al., 2017). Implementing an RMS provides an opportunity to incorporate some cost savings in space and equipment, and to utilize staff more productively. A well designed RMS will enhance information retrieval with corresponding improvements in office efficiency and productivity (Liu, 2014; Mucheru, 2013).

1.2. Background

The International Organisation for Standardization, through the ISO 15489-1:2001 Records Management Clause 4, provides a list of what an effective RMS can do for an organisation as follows: conducts business in an efficient and accountable manner; supports and documents

policy formulation and managerial decision making; meets legislative and regulatory requirements including audit and oversight activities; provides protection and support in litigation including management of risks associated with evidence of the organizational activity; and maintains corporate and collective memory. International, regional, national and industrial laws and regulations could result in severe fines, penalties or other legal consequences for an institution and individuals if records are not well maintained (Brooks, 2019; Lemieux et al., 2014; O'Flaherty, 2015; Phiri, 2016). Non-compliance problems for business and government institutions could be as a result of the difficulty in locating, interpreting and applying these laws (Oyaro, 2013; Svard, 2013). A consistently applied RMS can reduce the liabilities associated with document disposal by creating records and disposal schedules which provide for the systematic and routine disposal of records in the normal course of business (Gattuso, 2017; Ismail & Affandy, 2018). Identification and protection of vital records that are key to the continual existence of an organisation is important. In view of this, every organization - public or private, needs a comprehensive system for protecting its vital records and information from catastrophe or disaster considering every organisation is vulnerable to loss. Integral to the RMS is the vital records programs designed to preserve and safeguard the integrity and confidentiality of the most important records and vital information assets (Dikopoulou & Mihiotis, 2012; Gratha, 2015; Katuu, 2016). An RMS can help ensure that managers and executives have the information they need on time.

Corporate memory, an irreplaceable asset that is often times overlooked, is contained in the organization's records (Alalwan & Weistroffer, 2012). Every business day generates records which could become background information for future management decisions and planning. However, offices with files stacked on top of file cabinets and in boxes everywhere create a poor working environment and portray a very bad image of the organisation. To avoid these problems there is need to establish a good RMS that conforms to globally acceptable practices (Appiah et al., 2017). The Northern Region Water Board, a public organisation in Malawi, is part of the global community. As such, it has an obligation to follow internationally acceptable practices for it to effectively conduct its business in the global community.

1.2.1. Background Information

Malawi is a landlocked country located in the Southern Africa and shares borders with Mozambique, Zambia and Tanzania. Malawi has a population of 17.6m and GDP per capita was 516.8 US dollars in 2018 (Malawi Population & Housing Census, 2018). The Northern Region Water Board was established under the Water Act (No. 17 of 1995) of Malawi to supply

potable water to the urban and semi urban areas of the Northern Region of Malawi. The NRWB currently supplies potable water to Mzuzu City, Mzimba District, Nkhata Bay District, Rumphi District, Karonga District, and Chitipa District of Malawi. It employs a total of 540 permanent staff and 15 temporal staff (NRWB Strategic Plan 2015-2020). The NRWB continuously seeks improved ways of handling its business and its responsiveness to the customer requirements as portrayed in its mission statement which is "To ensure that all people have safe drinking water" (NRWB Strategic Plan 2015-2020). The NRWB's vision is "Potable Water for All" (NRWB Strategic Plan 2015-2020). In line with its vision, the NRWB ensures the constant supply of potable water to its existing customers' base and expand its water supply areas in the region. In the process of transacting its business, the Board generates large volumes of records from its activities. This information is in both hard copy and electronic form.

1.3.   Problem statement

Records form the foundation of open governance, supporting the principles of transparency, participation, accountability and collaboration. Well-managed records can be used to assess the impact of projects, to improve business processes, and to share knowledge across the public institutions (Nassar et al., 2017). Contemporary organisational activities from management of finance to personnel depend on reliable information to deliver services and operate. As such records form evidence of organisational activities and are kept for administrative purposes and use in the daily organisational operations (Hasan et al., 2014). There is, therefore, an urgent need to formulate integrated strategies for the management of public sector records and further build the capacity for managing the ever-growing electronic records.

The NRWB generates large volumes of records when transacting its business with a customer base of over 300,000 (NRWB Strategic Plan 2015-2020). Currently, it appears that the RMS is not well coordinated at the Board. For instance, the researcher who works with this institution observes that every department is responsible for managing its own records, meaning the system is not centralized. A decentralised RMS usually result in duplication of staff effort. For each department to be independent, it is required to establish its own infrastructure to support its RMS activities exerting pressure on the usually scarce organisational resources. Also, in an environment where an organisation wishes all its operative units to do certain things in the same manner, a decentralised RMS can cause challenges in achieving uniformity (Phiri, 2016; Velsberg et al., 2020). Studies by Sataslaatten (2014) and Svard (2013) show that business oriented organisations which do not have a properly coordinated RMS, are likely to experience various challenges such as delays in task completion, reduced service quality, failure in meeting

statutory requirements, compromised document security and collectively, these challenges lead to inconsistent cash flows.

While the NRWB has made significant investments in infrastructure and staff training over the years, the researcher observes that it appears the organisation has not established an ideal environment for records management. As a result, the study aimed to investigate records management practices at the institution.

1.4.   Study objectives

The study addressed the following objectives:

•   Determine records creation practices at the Northern Region Water Board;

•   Analyse records preservation strategies at the Northern Region Water Board;

•   Investigate factors that affect records management at the Northern Region Water Board.

1.5.   Significance of Study

This study was expected to generate a records management framework for effective management of records at the NRWB in particular. Consequently, the study may provide a significant contribution to knowledge on record management in public sector organisations and stimulate further debate on the topic in particular and the field of records management in general.

1.6.   Scope and limitation of study.

The study focussed on assessing and analyzing how records are created, kept, retrieved and managed at Northern Region Water Board. The study was limited to Northern Region Water Board only because of limitations on resources and time that would be required to include several public institutions in the study.

1.7.   Structure of thesis.

The structure of this thesis is as follows:

Chapter One – Introduction and Background.

This chapter provides an introduction to the research and the organisation under study, states the research problem, the scope of the study and the objectives of the study.

Chapter Two – Literature Review.

This chapter reviews the literature studied on record creation practices, records preservation strategies, factors affecting records management and records management and the public sector.

Chapter Three – Theoretical Framework.

This chapter reviews the main two records management models (the Lifecycle model and the Records Continuum model), their weaknesses and strengths.

Chapter Four - Research Methodology.

This chapter outlines research methodology, gives reasons for the proposed research strategy and discusses the data collection process utilised for the study, sampling methods, research design.

Chapter Five – Data Presentation and Analysis.

This chapter presents and analyses the findings of the study following the interviews and observations that were employed to collect data.

Chapter Six– Discussion, Conclusion and Recommendations.

This chapter attempts to make conclusions from the data collected and recommendations derived from the findings of the study.

1.8. Conclusion

The chapter basically focused on the background, the problem statement, the objectives, the scope and limitations, and the significance of the study. The chapter defined what records management is and the advantages of having a good and functional records management system. The chapter further differentiated records from information. It also introduced the contextual setting of the study. It further looked at the effects of records management practices on the organizational overall operations. The next Chapter (Chapter Two) reviews the literature related to the topic under study.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

The literature review relates to the records management systems and practices, the records management theories, records management and the public sector. The literature review provides clarity and focus to the research problem, improves research methodology and gives theoretical basis to the study among others (Amponsah & Boateng, 2015). In other words, a literature review facilitates the understanding of the existing research and debates relevant to a particular topic or area of study, building the knowledge of the field in the process.

2.2. Records management systems and practices

Records are a large cache of information in an organisation (Delaney & De Jong, 2015). Practically, records are an information asset, and used as evidence of decision making and risk mitigation. They are also stored for compliance and social requirements. A large part of organisation's memory and knowledge is kept in its records and documents, thereby making record and document management a tool to manage explicit knowledge (Ntim et al., 2017; Subramaniam et al., 2013). As organisations grow and become more complex, the volume of records and documents to manage grow exponentially. Employees require information in order to carry out their routine duties and responsibilities efficiently and effectively in an accountable manner. Records are a source of information and are the only reliable and verifiable sources of data that can serve as evidence of decisions, actions and transactions in an organisation. According to Yeo (2011), the role of records management is to ensure that members of staff involved in different operations have the information they need, when necessary.

Among their other purposes, records also act as raw materials for research in various disciplines, including science research, which is an important ingredient of socio-economic development. Furthermore, records can be used as an information resource for strategic planning purposes. The service provided by records management is therefore of vital importance to both employees (end users) and organizational success. As outlined earlier, the primary function of records management is to facilitate the free flow of information throughout the entire organization. Most importantly, it remains the function of records management to ensure that an organization's records are safe for future reference (Mosweu et al., 2017; Svard, 2013). According to Yu and Qian (2018), the role of RMS is that it acts as a control system that reinforces other control systems such as internal and external auditing. The record environment allows opportunities to commit fraud, and once fraud is detected, records can provide a trail for investigators to track the root of corruption. However, for records to be useful

in this capacity, they must be accessible. According to Kwatsha (2010) and Phiri (2016), organizations keep records for information retrieval, evidence of organization's activities and compliance with regulations. In support of this, Mcleod and Hare (2010), Kwatsha (2010) and Phiri (2016) further identified four main reasons for motivating organizations to preserve records permanently as discussed below, namely: administrative value, financial value, legal value and information value .

2.2.1. Administrative value

In the conduct of their business activity, organizations and individuals often need to consult records of their previous activities and decisions; for example, to provide background information, establish the existence of a precedent or to substantiate or refute a claim or allegation. Records in this case are of utmost importance for an organization's administrative function.

2.2.2. Financial value

An organization needs long-term documentary evidence of the way in which funds were obtained, allocated, controlled and expended (budget). This includes budget records, which provide evidence of how income and expenditure were planned, and how various accounting records and general documentation of financial transactions were carried out.

2.2.3. Legal value

Legal records provide evidence of contractual obligations, duties and privileges agreed upon by public organizations or individuals. They provide records of matters such as property titles, charitable status and other legal and civil rights. They may be preserved as evidence of the decisions of governments, courts and other bodies or as the source of the authority for action taken by organizations or individuals.

2.2.4. Information value

Archives and records management departments are generally recognized as the primary source of materials for information and research into the history of society. They form a unique and indispensable records source for researchers such as historians, scientists, geographers, sociologists, and statisticians.

2.2.5. Advantages of a good records management system

Records are indispensable to the efficient and economic operation of organizations. They serve as organizational memory, the evidence of past events and basis for future action. When created, maintained and disposed of in a systematic and orderly fashion, records are tremendous

assets to an organization (Mosweu et al., 2017). Records are invaluable. Keeping complete records from the beginning can save time and money. Records are also viewed as an important tool to ensure that obligations of an organization are met. Furthermore, they are also of value for reference and management decisions. Accuracy of records will also prevent excessive residues by ensuring that withdrawal time has been met (Kahraman et al., 2011). A good RMS should be brief, understandable and easy to update. According to Katuu (2016), advantages of good records management include: enabling organisations to keep track of its progress, being fundamental to the preparation of financial statements, providing reliable source in identifying source of income, and acting as supplement to organisational memory.

2.2.5.1. Enabling organizations to keep track of its progress

Records show whether sales are up or down, which clients are spending and which are not and whether any changes are needed. Without adequate documentation, making reliable business forecasts or looking back to see where an organization has been successful in the past is considerably more difficult.

2.2.5.2. Fundamental to the preparation of financial statements

All organizations rely on their financial statements to decide on future action. Financial statements are necessary when dealing with banks and creditors. Furthermore, financial statements allow for quick and systematic access to information on assets, liabilities and equity related organization.

2.2.5.3. Reliable source to identify the source of income

Organizations receive money and property from a variety of source on a regular basis. By using accurate records, they can identify where their various receipts come from and separate non-business receipts from taxable income.

2.2.5.4. Acts as supplement to organizational memory

Without an adequate RMS, organizations would not be able to claim deductible expenditure. When tax falls, it could be a loss, which could be particularly detrimental to organizations. Records are therefore of crucial importance to any organization's tax returns. They need to reflect the income, expenditure and credits that organizations note on their tax returns. Furthermore, keeping good records will ensure that organizations have accurate figures available for official inspection at all times. This would also help during auditing and financial reporting. In trying to emphasize the above advantages, Bwalya and Mutula (2016) indicated that the benefits of a well-organized RMS are to save space, money and time.

According to Brooks (2019), a sound records management programme will provide easy access and retrieval of information by users, thereby facilitating more timely and better decision making by management. This will translate into more productivity and reduced costs through easier access to records and less time looking for information. Management will as a result be better positioned to make timely and better decisions. The organisation will be more accountable, be able to meet legal commitments concerning the management of recorded information, improved information and integrity, as such the preservation of corporate memory will be possible.

All organizations need to manage the information they create and accumulate in the course of their activities. Without good information management, no institution can function efficiently since legal, financial and administrative transactions must be documented and the reference and research requirements of the institution need to be served. Poor information management means that organization may lose part or all of their corporate memory. Records documenting the development of functions and data on research carried out may be destroyed or misplaced. Surviving material may be without order and control, thus losing its value as evidence and resulting in over dependence on individual memory. Such lack of control results in loss of accountability for an organization's actions. Corruption and mismanagement in relation to problems of time and cost are likely to occur (Alalwan & Weistroffer, 2012). According to Sataslaatten (2014) it does not only cost business more money, such as that spent on purchasing of additional filing cabinets, files' folders and additional off-site storage, but business also loses efficiency and staff time when records cannot be quickly located and retrieved as they are needed. In summary, planning for and investing in the management of recorded information will result in improved customer service and lower cost.

It may, therefore, be appropriate to indicate that records exist in order to remind organizations of their previous activities. Svard (2013) noted that while records management may seem boring to many, it is hard to underestimate the role played by records management in organizations. Records constitute the corporate memory of the organization, evidence of what was done and why it was done. They provide information for different organizational purposes, such as decision making, financial accountability, performance measurement, strategic planning and research. In other words, good record and document management policies and practices help create a reliable circle because access to accurate and reliable records can help an organisation achieve its goals and objectives. Organisations are also required to demonstrate their accountability and acceptable standards of corporate governance such as audit and public

scrutiny through provisional legislations like the Malawi Access to Information Act of 2016 (E-transactions Act -Malawi, 2016). In an ideal environment, records management involves a policy which reflects an organization's needs. The object of the policy should be the creation and management of authentic, reliable, complete and usable records which are capable of supporting business functions and activities of the organisation for as long as they are required (Wamukoya, 2015). Good records management also involves reliable ICT infrastructure to support the records management program, laid out procedures and trained staff on the handling of the records. Rapid changes in technology mean that file formats can quickly become obsolete and cause problems for organizational records management strategy (Gattuso, 2017). The format chosen will affect organisational long term records management abilities (Mirkovski et al., 2016).

2.3.   Record creation practices.

Record creation practices are also referred to as records management processes (Liu, 2014). The processes are: records capture/creation, records classification, records storage, records preservation, records security and records disposal. Records creation simply refers to the establishment of records (Katuu, 2016). As organisations make the transition to fully electronic environments, it is important to ensure that processes and procedures are transparent enough to ensure that ethical and legal obligations are met (Oulasvirta & Bailey, 2016; Ross, 2012).

Mampe (2008) explored the role of records management in the delivery of public service at the Ministry of Health headquarters in Botswana, a country in Southern Africa with a population of 2.3 million people and GDP per capita of 6,781 USD. Mampe (2008) employed a case study approach using both quantitative and qualitative data collection methods. The targeted population for the study was 83 personnel from the ministry headquarters but achieved a participation rate of 71.1% (Mampe, Galaletsang, & Kalusopa, 2012). Data was collected through questionnaires, interviews, observations and documentary review to facilitate the triangulation of quantitative and qualitative data (Cresswell, 2014).The findings of the study were that the records management practices were not well embraced at the ministry which negatively affected service delivery. The study observed lack of awareness and non-existence of the records management policy, procedures and manuals adopted as minimal standards by the Botswana National Archives (Mampe et al., 2012). There was also gross "lack of security and preservation measures with rampant cases of missing files and folios, and torn folders" (Mampe, 2008, p. 19). The study also established delays in accessing and use of records as a result of lack of an elaborate electronic records management programme and low levels of

skills. The study recommended that a regulatory framework for records management should be developed and implemented at the ministry. It also recommended trainings for records users and records management personnel (Mampe, Galaletsang, & Kalusopa, 2012).

Chaterera (2016) conducted a study covering topics such as retention and disposal programmes, registry procedure manuals, disaster preparedness, records management training, electronic records management, and records inspections by the National Archives of Zimbabwe (NAZ). Zimbabwe is a Southern African country with a population of 13.1 million and GDP per capita of 1,463.99 USD (Schindler et al., 2011). The population of the study was 45, drawn from the then 32 government ministries. A qualitative approach that used interviews, content analysis and questionnaires was used to gather data for the study. The response rate for the questionnaires was 72% (Chaterera, 2016). The basic tenet of the study was that public records management units needed effective records management practices to achieve better public service delivery, good governance, accountability and transparency (Dikopoulou & Mihiotis, 2010; Katuu, 2015). Delays and inaccessibility of services due to missing or misplaced records from public institutions were a common challenge in Zimbabwe. The overall results indicated that the provision of public services was at risk due to improper record management practices in the public sector (Chaterera, 2016). The study concluded that improved work relationship between the NAZ and the public departments was necessary to improve the records management practices in the country's public sector (Chaterera, 2016).

Another similar study was done by Marutha (2012) in the public health sector of Limpopo Province, the Republic of South Africa, which aimed at establishing how electronic records were managed and identifying the prevailing medical record-keeping practices in the province. Limpopo is one of the nine provinces in South Africa, a country in Southern Africa with a population of 58.9 million people and GDP per capita of 5,067.15 USD (Statistics South Africa, 2019). The study employed questionnaires, observation and interviews to collect data from the study population of 324, comprising health workers in health facilities in the province (Marutha & Ngulube, 2012). The study showed that poor record management practices of the province's public health institutions had a negative impact on timely and effective health care services, resulting in long wait times for patients seeking medical help and, in many cases, patients could receive treatment without medical history (Marutha & Ngulube, 2012). It also identified the need to introduce an electronic records management system that could capture and provide access to complete patient records and track the movement of paper records (Katuu, 2015; Marutha & Ngulube, 2012).

Public records form the basis of any political and legal system of any public sector organisation (Ngoepe & Van der Walt, 2009; Subramaniam et al., 2013). RMS provide information for planning and decision making, promoting accountability and improving access to information by the citizens (Ball, 2012; MacCarthaigh & Roness, 2012).

A study conducted in Greece by Dikopoulou et al. (2010) to evaluate the records management practices of the central public administration in Greece showed that the use of RMS in the public administration in Greece was not common. This survey used questionnaires as the main data source, supplemented by content analysis. The research focused on various ministries and government secretariats (Anastassia Dikopoulou & Mihiotis, 2010). Greece is a country in Europe with a population of 10.5 million people and a GDP per capita of 19,582.54 USD (OECD, 2020).   Other key findings were that "although many agencies had realised the need of implementing records management programmes, there were still obstacles such as the inadequate framework, the incompatibility with the national and European regulation and best practices, the poor staff information and training and lack of RM professionals in the public agencies" (Dikopoulou et al., 2010, p. 273). The study also identified the need for top management in the public sector to be encouraged that there is cost reduction and effectiveness through the implementation of an efficient RMS.

Buckley and Buckley (2017) explored the challenges faced by Canadian public sector organizations in the proper management of documents, records, and various documents of commercial value. Canada is one of the developed countries in West America with a population of 38.1 million people. An online survey was employed targeting Information Managers and the Information Technology community within the public sector collecting both quantitative and qualitative data, with a total of 32 respondents (Buckley, 2017). The results showed the diversity of the content management system of the Canadian public sector environment and the challenges that were being experienced. "Overall, the results showed room for improvement of CMS implementations including assessing user needs more appropriately, working toward better user experience, more intuitive design, and integration with other workplace applications" (Buckley & Buckley, 2017, p. 223). The study confirmed that Canadian public organizations needed a new framework to take a more collaborative and critical approach to CMS. The study proposed that the Canadian government could adopt new strategies to address the suspicions experienced by RMS project users, and derive more benefits from the technology by simplifying often conflicting information management and information technology policies, guidelines, and best practices (Buckley, 2017; Dass & Abbott, 2008).

The creation of records in most organisations involves the use of data capturing forms. The majority of records in any organisation are printed or electronic forms. Forms facilitate handling of current but variable data (Mcleod & Hare, 2010). They are helpful in recording or documenting discrete transactions. Organizations establish form control systems that include analysis of the processes or procedures that need to use the form, determine the position of the form in a specific business process, create a layout and design of the form, upload or install the form (if digital version) or have it printed and procured (if paper version) and distribute the form to users (Kwatsha, 2010).

These processes or activities provide an opportunity for organizations to customize important stages of record creation to reduce long-term costs and increase productivity (Joseph et al., 2012; Kwatsha, 2010). Since clerical processing of the form (printed or electronic) is much higher than their design and printing, it is critical to use what is known about how people process information to ensure that the greatest amount of needed information is supplied and that the information can be supplied in the shortest amount of the employee or customer's time.

Due to the increase in privacy of issues and the resulting global laws and regulations, record storage has become a priority for all organizations. The deficiencies of proper storage procedures can endanger the survival of the organization (Adu, 2018; O'Flaherty, 2015). Although keeping records securely and available for daily use is mandatory and advantageous, keeping records beyond their usefulness can also expose an organization to litigation risks. Consequently, in the sphere of records storage there is always a thin line between retaining the wrong information and destroying the required documents (Abdul et al., 2018; Adu, 2018; Wilson, 2016).

Literature has shown that failure to implement proper record management processes has been met with dire consequences (Katuu, 2015). For instance, in December 2013, the Financial Industry Regulatory (FINRA) fined Barclays Capital Inc. US $3.75 million for systematic failures in preserving electronic records, email and instant messages in an appropriate manner for a period of 10 years (2002 to 2012). Therefore, good record creation practices are key to minimizing risks of litigation.

2.4. Records preservation strategies

The record preservation strategies include preservation techniques (e.g. refreshing, migration, emulation); selection for preservation, staffing configurations; cost modelling; access to pre-

served records and policy making (Hussin et al., 2018). Records are fragile due to the high pace of technological changes resulting in obsolescence (Gerrard et al., 2018).

A study was conducted by Svard (2013) to establish whether Enterprise Content Management (ECM) and Records Continuum Model (RCM) frameworks could be used to mitigate long-term preservation challenges in Swedish municipalities. Sweden is a country in Europe with a population of 10.1 million people and GDP per capita of 51, 615.02 USD (Surveys, 2021). Qualitative research was employed using two case studies and interviews. "The questions were designed using the lens of the RCM and its four dimensions that cover the creation, capture, organization and pluralization of records and prescribed factors of ECM which include business process management, enterprise architecture, collaboration, system integration, re-purposing of information, change management, knowledge management and the life cycle management of information" (Svard, 2013, p. 1). Face to face interviews were administered to 14 participants with the fifteenth participant answering through email among municipal officers who were involved in the management of information. The major finding was that "the ECM prescribed factors were also being espoused within the records management framework which confirmed their relevance to the creation of an information management infrastructure that would mitigate the challenges of long-term preservation" (Svard, 2013, p. 173). The study also determined that lack of coordination between the municipal archivists, the people behind the business processes and the IT staff led to the unnecessary acquisition of electronic management systems which eventually created stand-alone systems. The numerous stand-alone systems further posed long term records preservation challenges (Ravenwood et al., 2015; Svard, 2013).

Liu (2014) carried a study to gain a comprehensive understanding of the preservation of archival electronic records in public archival institutions in China. China is a large country in Asia with a population of 1.45 billion people and GDP per capita of 11,819.03 USD (Hofman, 2021). The study used a survey with a self-administered questionnaire to collect data from 47 public archival institutions in the Mainland China (Liu, 2014). The study found that more than half of the public archives surveyed adopted electronic records with inconsistent and insufficient long-term preservation standards. "The study also pointed out that the issues surrounding electronic records management in records creating agencies were considered most challenging for long-term preservation, and that a national strategy with a top-down approach was called for, which could take full advantage of the Chinese archival system" (Liu, 2014, p. 1). The study generally observed that the challenges of managing digital records and of

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ensuring their long-term preservation was expected to continue troubling records professionals as new digital technologies are continuously evolving (Liu, 2014; Ravenwood et al., 2015).

In a study conducted by Kootshabe (2014) which set to establish the state of preservation management of government records in Botswana, the main finding was that, although the government institutions under investigation had made reasonable commitments to preservation, their responses to protection management were not uniform. The study population consisted of 34 administration officers supervising records management and 8 records managers who were purposively selected for interviews. A further 76 records management unit operational officers were randomly selected to respond to a questionnaire (Kootshabe, 2014). The study recommended the development of preservation policies and procedures which would form the standard procedures for preservation of records in the country's public sector (Appiah et al., 2017; Kootshabe, 2014).

Mnjama and Wamukoya (2007) reviewed the literature on ICT, records management, and e-governance, as well as the challenges faced by archivists and records managers when dealing with ICT-generated records in developing countries in Africa. The findings were that while most "governments had systems and procedures for managing paper-based records, the same cannot be said for electronic records and other digital information" (Mnjama & Wamukoya, 2007, p. 282). The review showed that although electronic record preparation tools can be available and used in fully developed countries, the systems and procedures for managing both electronic and paper records are not perfect in African countries (Appiah et al., 2017; Mnjama & Wamukoya, 2007). Therefore, developing countries must plan and adopt appropriate methods to ensure that records created with modern ICTs remain accessible in the future, thus ensuring government accountability towards citizens (Masenya, 2020; Mnjama & Wamukoya, 2007).

In a study to analyse the status of digitization process in selected public institutions of Addis Ababa city in Ethiopia, Bayissa et al. (2010) collected data from 27 institutions in the city using instruments like questionnaires and literature study. Ethiopia is a country in East Africa with a population of 112.1 million people (Kaewkiattikun, 2017). Addis Ababa is its capital city and has a population of 5 million people. The central objective of the investigation was to determine the scope, current practices, development work, and future considerations of digital records or archive materials in Ethiopian organizations (Kaewkiattikun, 2017). The research results identified gaps in the digital activities of public institutions that affected the future of the

projects. "The result of the study confirm that institutions are far behind the era of digitization as it was only 10 (37%) institutions that hold digital products" (Bayissa et al., 2010, p. 13). The study determined that most participating organizations entered the digital field no earlier than 5 years before the introduction of advances in digital record accessibility decades ago. The study also discovered the lack of awareness, the resistance of traditional system transformation, the impact of organizational dynamics, the organization's failure to prepare for digital projects, insufficient resources, poor long-term planning, the need for technical resources for record management systems, and unforeseen costs. Unclear interpretation of the digital world is a factor affecting the country's digital problems (Bayissa et al., 2010; Brooks, 2019; Masenya, 2020).

2.4.1. The importance of preservation management

The best and most cost-effective way to protect records is to ensure the good and orderly physical and administrative management of the entire organisation. All staff should be trained to handle materials, particularly storage facilities (Adu, 2018). The entire organization needs good protection practices. Choosing high-quality equipment in the office or storage library will bring good service, which not only helps users, but also minimizes the damage to records caused by use (Brooks, 2019; Parsons et al., 2011).

Archival materials will naturally require more stringent care than do records that are ultimately destined for destruction, but good records care begins with the management of records in the office, regardless of their ultimate destination (Kootshabe, 2014; Wilson, 2016). Important materials should be identified when they are created and used in the office so that measures can be taken to protect them from damage or loss. Ideally, most protection efforts are preventive in nature. It is better to protect your records and control your environment than to spend resources and time to repair the damage (Liu, 2014). Preservation to a good standard is not inexpensive, but it is much less costly than having to lose valuable information which forms organizational memory and is essential in organizational decision making.

2.5.   Factors that affect records management

Studies by Hickson et al. (2016), Katuu (2015), Kwatsha (2010) and Mosweu et al. (2017) have shown that records management in public institutions is affected by information communication technology, staff training, organizational policy and organizational culture.

2.5.1. Information and communication technology

Information and communication technology is an important factor that affects records management in public institutions. Information and communication technology and record management are both concerned with the creation, storage, accessibility and security of digital information (Mucheru, 2013). Information technology provides the convenience, speed and efficiency of retrieving records. Such improved access is essential to promote better organizational governance. Thanks to the use of modern technology, communication between members of the organization, and between members of the organization and the public has been improved. Organizations can also interact with their stakeholders and get quick feedback through information technology (Chawinga, 2017; Chawinga & Majawa, 2018; Chawinga & Zinn, 2015; Chawinga & Zinn, 2015; Chawinga & Zinn, 2020b; Chawinga & Zinn, 2019; Phiri, Chipeta & Chawinga, 2019; Gladney, 2019; Lubanga et al, 2018; Thindwa, Chawinga & Dube, 2019).

Maintaining the security of records may involve a combination of systems and processes to ensure that the requirements are met. Access to records can be managed by applying controls which limit access to authorized personnel and which monitor security breaches. Passwords and passphrases are common authentication methods used to verify and identify users (Moseti, 2016; O'Flaherty, 2015). At the same time, security and authentication mechanisms should not inadvertently make records inaccessible in the long term. This is particularly important for records of long-term business value. There is a considerable risk that records will become inaccessible as staff changes occur and passwords are forgotten (Latham, 2018). It is important, therefore, to store records in designated records management systems with authorized user access rights.

Technology is evolving at a rapid rate. The software and hardware used by an organisation to create digital records tend to be short-lived, quickly replaced by upgrades or improvements (Brooks, 2019; Molloy, 2015). Because of this hardware and software obsolescence, digital records can quickly reach a point where they cannot be read or understood. The general manipulability of digital records means that they can quickly and easily be updated, deleted or altered (Perazzo et al., 2019). However, digital records are evidence of business activity and must be managed securely to prevent unauthorised modification.

2.5.2. Organisational Policies

Policies and procedures for managing digital records are an important element of a digital records management framework (Svard, 2013). The policy defines the method for the organization to manage records and provides the high-level management authority necessary for the implementation of the framework. The procedure describes how the policy is implemented and provides clear instructions for its practical application. Where necessary, policies and procedures can be supplemented with guidelines to provide additional instructions and guidance (Katuu, 2015; Wamukoya, 2015).

 Policies, procedures and guidelines should be developed to suit the organisation's size, complexity, corporate culture and structure. A small organisation, for instance, may have a single policy covering the management of all records. Larger agencies may have multiple policies covering specific areas of records management, such as electronic messages, preservation of digital records, web-based digital records and digital records security (Lemieux et al., 2014).

The organisation's IT environment should also be considered – for example, how many systems currently exist that have potential for integration? What types of records are generated (e.g. data sets, spreadsheets, messages, images), whether staff work from the hard drive, shared folders or through an interface to multiple storage facilities? (Brooks, 2019; Mcleod & Hare, 2010). Considering these issues will help organisations choose a records management solution, and develop and implement effective policies and procedures. According to Mosweu et al. (2017) and Kwatsha (2010), some of the issues that may be covered by policies, procedures, and guidelines may include establishing and managing an organization's electronic workspace; developing and implementing document and directory naming conventions; assigning responsibilities to specific personnel or departments; establishing a system to capture digital records in company records; establishing conditions for the use of electronic information systems; including private use by employees; implementing security and access control measures; coordinating file storage and disposal and aligning ICT management procedures with digital records management best practices.

The policies should clearly define retention procedures and measures for records as excessive retention of records will more likely cause difficulties in retrieving records and may result in space problems. Adherence to these policies should be continuously monitored and the policies should be reviewed on an annual basis (Brooks, 2019 ; Katuu et al., 2015).

2.5.3. Organisational culture

The culture of keeping records and storing information properly in an organization has become critical not only for historical purposes, but more important for current and future management and policy making (Katuu, 2015). Records are used as a tool to understand the organization and as a basis for guiding employees towards best practices and ways of doing things.

Organizational culture can manifest itself at different levels within an organization: at an enterprise level, at a business group level and even amongst different occupational groups (Nassar et al., 2017). Therefore, it is important to recognize that there are multiple subcultures operating within an organization. In addition to the group level, culture is also reflected at the individual level. This is so because employees working in the organization also have their own unique experiences, such as their education and professional training and previous experience using RMS (Kwatsha, 2010). As such, these individuals do not passively accept an organization's policy and procedure in terms of using RMS. Individuals also actively interact with the RMS and this, in turn, influences the way they perceive the technology. They also influence their colleagues' perception of the RMS (Katuu, 2016). Archivists and records professionals thus have to adopt a multi-pronged approach to work within the culture of the various groups operating at different levels of an organization. They also have to understand employees' experiences, assumptions and beliefs of a given RMS and technology at an individual level (Joseph et al., 2012).

2.5.4. Staff training

Staff competency also pose as a challenge to efficient records management since organizational environments are ever changing, leading to the need for the staff to equip themselves with the relevant skills (Katuu, 2016). The relevant skills also affect the ability for the staff to plan, an important factor that affect effective records management.

It is necessary to invest in staff education and training to encourage widespread adoption of good records management practices. Training and user education programs must be recognised as an integral, vital and ongoing component of an organisation records management framework (Lemieux et al., 2014; McAlearney et al., 2012). All staff, regardless of level, should be educated about the records management policies adopted by the organisation. Staff with responsibility for digital record-keeping in an organisation should be proactive in developing and delivering training to familiarise staff with the appropriate procedures for creating, managing and preserving records. According to McAlearney et al. (2012), key topics to be

covered by the employee training plan include the importance of records, employee responsibilities, the practice of capturing records in the organization's RMS, record security issues, and capturing appropriate records metadata. To ensure that the staff are aware of their obligations and that the organisation create and maintain full and accurate records, active and sustained promotion of the importance of records management is essential. In addition, the records management training in the new employee's onboarding plan is critical to the continued effectiveness of the organization's records management education and communication strategies (Appiah et al., 2017).

Msiska et al. (2017) conducted a study to evaluate the factors that influence the use of record management systems in Malawi, especially at Queen Elizabeth and Kamuzu Central public hospitals. In addition, the study investigated the reasons why paper-based records are still used despite many related shortcomings. In data collection, 111 health workers randomly selected using a semi-structured questionnaire were interviewed at the two largest central hospitals in Malawi, where electronic medical records systems were first introduced. A focus group discussion was held to gather more information on the factors identified in the individual interviews (Cresswell, 2014; Msiska et al., 2017). Results of the study were that age, gender, and previous computer literacy did not affect the adoption of the electronic medical records systems (Msiska et al., 2017; Susan, 2014). However, the level of education and employment positively correlated with the adoption of the records management systems. Technological issues and lack of training and management support had negative effects on the adoption of the electronic medical records systems. It was, however, established that electronic medical records systems could improve data quality and efficiency in patient management (Manikas, 2015; Msiska et al., 2017).

Mosweu et al. (2017) used the revised Unified Theory of Acceptance and Use of Technology (UTAUT) as a theoretical perspective to investigate the factors that influence the adoption and use of document workflow management systems by the Ministry of Commerce and Industry in Botswana. The study adopted a survey research design and used questionnaire to collect data from the 61 operational officers who were the main users of the system, and the response rate was 87% (Mosweu et al., 2017). The findings of the study were that technology phobia, negative attitudes towards system use, system complexity, and incompatibility with existing information systems were the key factors leading to low system adoption and utilization rates (Mosweu et al., 2017; Susan, 2014).

Public institutions need information systems that allow them to systematically manage records, produce business processes and execute these processes in electronic media (Demirtel & Bayram, 2014; Mosweu et al., 2017; Susan, 2014). Legislation and standards for electronic communications within and between regulatory agencies are being developed in many countries (Demirtel & Bayram, 2014). To this end, Demirtel and Bayram (2014) carried out a study to assess the measurable benefits of ERM applications in the Ministry of Development, Republic of Turkey. Turkey is a country in Europe with a population of 78.7 million people and GDP per capita of 8.548.18 USD (Cavlin, Alanur Adali, Tugba Kumas, 2016). A questionnaire survey was conducted with executives who use the system and those responsible for registration (59 in total) to reveal the administrative level benefits of the ERM packages. The results of the study showed that the implementation of the ERM benefited the users due to its reliability and that records could easily be accessed. In addition, the satisfaction rate of internal IT services increased from 71% to 77% following the implementation of the ERM system (Demirtel & Bayram, 2014).

Kwatsha (2010) examined the factors contributing to the success and failures by government institutions to reap the expected benefits of huge increases in the implementation and use of electronic document and records management systems (EDRMS) in public institutions in the Republic of South Africa. The South African government had adopted this system to comply with the legislation, which required government institutions to use electronic means instead of paper as the preferred method of conducting official activities (Kwatsha, 2010; Mosweu et al., 2017). Bibliographic research was used as the main data collection method for the research, reviewing some 30 potential articles in the process. Data was also collected through semi-structured interviews with 5 government departments that implemented the EDRMS, including the central government (Kwatsha, 2010). Findings showed that the key factors that affected EDRMS implementation were strategic, social, and technical in many public institutions. Among these key factor categories, support and commitment from top management and change management had a profound impact on the implementation of EDRMS (Kwatsha, 2010). In addition, the study determined the importance of communication and user participation in the implementation process to have a high rank in social factors. The study also showed that although the system factors were not as prominent in the research process, their importance in the implementation process was as important as the other two factors. The study also found similarities in the factors that influence EDRMS implementation within the central government (Katuu, 2015; Kwatsha, 2010 & Oyaro, 2013).

The records management policy framework specifies standards for records management, including principles, standards, procedures and guidelines. Halim et al. (2018) conducted a study to determine the important and appropriate factors behind records management policies, in general, so they can be adopted in public organisations in Malaysia, a country in Asia with a population of 31.9 million people and GDP per capita of 11, 414.21 USD (Anderson & Barret, 2018). A qualitative survey employed interviews, observation and document content analysis were used to collect data from Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) (Abdul et al., 2018). The key finding was that when implementing information governance initiatives, there were inadequate records management policy frameworks for the public sector to refer to (Abdul et al., 2018; Susan, 2014).

2.6.   Record management and the public sector

According to Gratha (2015), institutions, whether private or government owned, are all legally bound to create, retain and preserve documents as a record or evidence of their activities and proceedings. The information contained in those records is a valuable asset and thus must be managed and protected. It is the responsibility of institutions to ensure that the records of the day to day business activities are authentic, accurate, reliable and complete for evidential purposes, while stakeholders on the other hand require to be certain that records would be efficiently managed to ensure accountability and transparency of the institution and to protect their interests and entitlements (Bwalya & Mutula, 2016). Accurate, authentic and complete records provide evidence that a particular action or transaction took place or that a particular decision was made. Records support all business functions and activities. Records are critical to the assessment of policies and projects, and to the analysis of individual and organizational performance and progress. In the absence of accurate and reliable records and effective systems to manage them, institutions cannot deliver the services they are mandated to. Furthermore, institutions cannot be held accountable for their decisions and actions (Bailey & Ngwenyama, 2010; Mosweu, 2011).

A modern-day public institution has evolved from simple provision of basic services to a complex institution which generate large volumes of records (Kwak et al., 2020). The evolution has seen institutions transform from simple record keeping in which recorded information were mainly in a physical medium such as paper to a complex RMS where recorded information is mainly in a hybrid RMS. The transition has led to an increase in all-electronic record management systems (Peng et al., 2016; Yoon, 2013). Similarly, governance and record management in these institutions have evolved to complex governance systems where an

institution is accountable to multiple stakeholders such as government, clients and the general public (Brooks, 2019).

New technologies such as email messaging, social media and cloud use are changing the record keeping landscape that necessitates collaborative efforts between RMS managers, information systems experts and executive management (Mosweu et al., 2017).

Modern institutions are also operating in an environment in which governance, audit and risk management are critical issues (Appiah et al., 2017; Brooks, 2019). To address these emerging issues, it is necessary to develop RMS that can foster the governance agenda of a modern institution compliant to best record management policies and practices.

2.7.   Conclusion

The literature reviewed clearly shows that records management is a wide topic and is dependent on a number of factors. The review covered general records management practices and the advantages of having a good records management system. The review also outlined the prevailing formats of records and records preservation strategies. It also reviewed factors that affect records management, in general, in most organisations. The review has shown that among the elements affecting records management is ICT. The developments in information technology have diverse effect on the overall handling of records from their creation, their access to their storage. Organisational culture also plays an important role on records management systems as it influences the development of policies and procedures that run the RMS. However, these elements may not be applicable to an organisation like NRWB which operates in Malawi, a developing country in Africa, due to many factors that may include levels of advancements in technology and cultural factors. Hence the need to carry out this study at the NRWB.

CHAPTER THREE: THEORETICAL FRAMEWORK

3.1.   Introduction

A theoretical framework is the structure that can hold or support the theory of a research study (Cresswell, 2014). The theoretical framework introduces and describes the theory which explains why the research problem under study exists. The theoretical framework is the foundation from which all knowledge is constructed (metaphorically and literally) for a research study (Ahmed et al., 2014; Glik et al., 2006 & Iivari, 2005). It serves as the structure and support for the rationale for the study, the problem statement, the purpose, the significance, and the research questions. The theoretical framework provides a grounding base, or an anchor, for the literature review, and most importantly, the methods and analysis (Katuu, 2016; Vinet & Zhedanov, 2011). Without a theoretical framework, the structure and vision for a study is unclear, much like a house that cannot be constructed without a plan. By contrast, a research plan that contains a theoretical framework allows the dissertation study to be strong and structured with an organized flow from one chapter to the next (Eaves, 2014; Hickson et al., 2016).

There are two theories to records management: the Life Cycle approach and the Records Continuum approach (Johnston & Bowen, 2005). The Life Cycle approach is an analogy of life of a biological organism (Swan et al., 2002). A record is created, used for so long as it has value, appraised and is then disposed of by destruction or by transfer to a records centre or an archival organisation for permanent preservation. The other approach is the Records Continuum which recognizes that the four actions, that is, identification, intellectual control, provision of access and physical control continue or recur throughout the life of a record (Higgins, 2008).

3.2.   The Records Lifecycle Model

The life-cycle approach concept of the records is an analogy from the life of a living organism which is born, lives and then dies (Higgins, 2008). The records life-cycle approach illustrates the life span of any record in any format, whether it is on paper or electronic based, as expressed in the five phases of creation, distribution, use, maintenance and disposition (Poole, 2016; Feng & Richards, 2018). It is the core approach in the field of records management (Madden, 2008). It provides the institutions with an important basis for developing an RMS. The records lifecycle goes on as follows: the document is created and enters what is called the current stage. Current records are regularly used for the conduct of the current businesses of an organization or individual. They are also known as active records. Current records are normally kept near

the place of origin or the registry or records office. From the current stage the record goes on to the semi-current stage. Semi-current records are required only infrequently in the conduct of the current business. Semi-current records will normally be maintained in a records centre pending their ultimate disposal. From semi-current phase, some records are selected as archives. Archives are, usually but not necessarily non-current records, of enduring value selected for permanent preservation. Archives will normally be preserved in an archival institution (Katuu, 2016 & Moseti, 2016). The records life cycle is an important concept as it indicates that many interrelated parts must function well together for an effective records and information management system (Frank, 2020).

3.2.1. Stages of the Lifecycle Model

The Lifecycle model has five stages namely creation, distribution, use, maintenance and disposition. The five stages are discussed below.

3.2.1.1. Creation

In the first stage, the record is created, presumably for legitimate reason and to conform to some standards. This is the point where information is collected and captured (McKemmish & Piggott, 2013). Various methods are used to create records, such as writing letters or memos, filling out forms, copying existing records, and taking photos. Creating these records involves varying degrees of effort. Therefore, before creating a record, the necessity of its existence should be considered. If it is not required, it should not be created. More than three-quarters of information costs are consumed at this stage, but almost all organizations create unnecessary records every day (Jaakonmäki et al., 2018).

3.2.1.2. Distribution

In the second stage, the records are distributed and stay in an active period while they have maximum value and are used or referred to frequently by the creators and others responsible for decision making (Mcleod & Hare, 2010). During this time, the records are stored on-site in the active and current storage facilities of the creators, after being sorted as per the parameters and schedule of the record management system they belong to for easy access and retrieval. In other words, this stage is more concerned about managing the record. It includes both internal and external distribution (McKemmish & Piggott, 2013).

3.2.1.3. Use

This stage is concerned with how the records are distributed internally and its effect on all or a segment of the operations of the organisation (Mcleod & Hare, 2010).

3.2.1.4. Maintenance

Since recording is active, data integrity must be maintained at all costs. The first step is to ensure that the document storage method is reliable and organized in such a way that records can be easily accessed throughout as required (Ravenwood et al., 2015). Also, the storage method should be well protected as well. This can include protecting documents and servers, just to mention a few. When considering maintenance, another important aspect is the creation of usage logs for all parties that have access to all of these records (McKemmish & Piggott, 2013).

3.2.1.5. Disposition

Most records are retained and must be available for approximately seven years before they are destroyed. At the disposition stage, records may be reviewed and determined to have no further value (Mcleod & Hare, 2010). At this point the record is destroyed or may be relegated to semi-active status, which means it still has value but is not needed for day-to-day decision making and is stored in an off-site storage facility as it is not consulted regularly. Retention periods for off-site storage are defined by an organization's specific retention schedule. A retention schedule is a document that spells out what kind of information the company has and how long to keep it (Erdélyi et al., 1975; Higgins, 2008; McKemmish & Piggott, 2013).

3.2.2. Strengths of the Lifecycle Model

The lifecycle concept is important as it prevents vast quantities of inactive records clogging up expensive office space, making it virtually impossible to retrieve important administrative, financial and legal information. Such situations would undermine the accountability of the organisation and endanger proper organizational decision making. Without a management programme that controls records through the earlier phases of their lifecycle, those of archival value cannot be identified and safeguarded so that they can take their place in due course as part of the organisational memory (Moseti, 2016).

The lifecycle concept is a popular model and it is used in many health and government related studies. Alegbeleye and Chilaka (2019) used this model in a study to establish challenges being faced by the Ministry of Health in Nigeria and suggested how records management practices can be enhanced by use of best practices at the ministry. Among the challenges being faced were the constant misplacements or missing of the records at the government ministry (Alegbeleye & Chilaka, 2019). Government's institutions require records for the necessary information in running programmes effectively. Records enable government institutions make

sound decisions, administer programmes and provide continuity with past operations. Records ensure government and its officials are held accountable in the long run (Chaterera, 2016; Oyaro, 2013 & Plaček et al., 2020). To a large extent, government related records may be more likened to a living organism which suits the lifecycle concept in studying them as they are not continual in their nature (Svard, 2013).

3.2.3. Weaknesses of the Lifecycle Model

The concept of a life cycle has been at the core of most records management systems. The activities of records management systems are developed upon this concept, which has several phases that explain the stages or status of records, from creation through use and maintenance to ultimate disposal. However, it has been argued that the life cycle concept is more relevant to paper-based records management systems (Kemoni, 2009; Manikas, 2015). The concept is said to be inadequate when applied to electronic records, where records are unlikely to reach a definite inactive point but are instead migrated into new formats following developments in technology (Voutssas, 2012). Electronic records always need to be transacted, migrated and converted by hardware and software in order to be readable by their creators and users. The concept is therefore generally inappropriate for technology-generated records (Groenewald & Breytenbach, 2011; Molloy, 2015).

In evaluating the weaknesses of the Lifecycle model, Wood (2012) pointed out that with the rapid changes in technology, the records are more likely to be converted or transformed into other formats. The concept of a Records Continuum was subsequently encouraged in the records management field as it addresses the management of both paper-based and electronic records. While NRWB generates both paper-based and electronic records, the majority of its records are in electronic formats due the EPR system in use across its operating areas. As such, the life cycle concept may not fully address the practical business need of NRWB as most of the electronic records in the institution build on each other and are continuous in their nature like the customer water consumption history that form basis for billing and future demands projections (Mcleod & Hare, 2010; Ross, 2012).

3.3. Records Continuum Model

Advances in ICTs in the 21st century have resulted in the proliferation of electronic records which has necessitated new records management and archival practices. This culminated in the formation of continuum theory (Svard, 2013). Johnston and Bowen (2005) defines a continuum as something continuous of which no separate parts are discernible and in which continuous

series of elements passing are into each other. Also, that the dimensions of the continuum are not time based; they are both current and historical from the moment of their creation. This distinguishes it from the records life cycle model which stipulates five clearly identified discrete stages (Joseph et al., 2012; Wood, 2012).

Frank Upward developed the records continuum model which was being used in recordkeeping environments built around electronic environment (Upward, 2000). Upward's model maps the traces onto appropriate dimensions in a recordkeeping system.
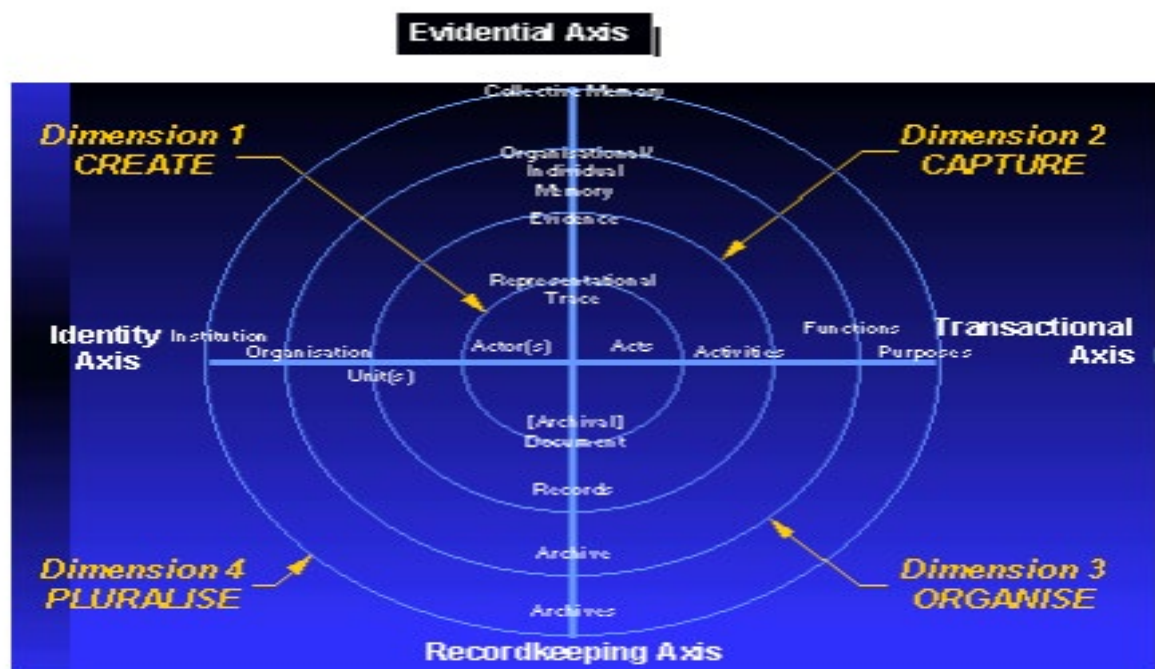
Figure 1. Records continuum model (Frank Upward, 1996)

The axis with the recordkeeping theme has the traces themselves, the recordkeeping containers: the document, record, archive, and archives that are created, captured, organised, and pluralised, respectively. The evidential theme has trace, evidence, corporate memory, and collective memory; the identity theme has actor, unit, organisation, and institution; and the transactional theme has transaction, activity, function, and purpose. The elements of each theme correspond to the processes of creation, capture, organisation, and pluralisation, respectively (Öberg & Borglund, 2006).

3.3.1. Dimensions of the records continuum model
There are four dimensions of the records continuum model namely create, capture, organize and pluralise.

3.3.1.1. Create

Creation is the first dimension of the records continuum model. Creation involves the actors who do the acts such as decision making, communication, the documents which record the acts and the representation of that transaction embodied in the document (McKemmish & Piggott, 2013). The continuum model tries to identify those accountable acts and creates reliable evidence of such acts by capturing records of related and supporting transactions (Higgins, 2008). In practice, the create dimension relates to the event when a customer receipt is printed as a record of the commitment to fulfil, and when it is stamped and handed to a customer as a record of actual payment. At this point the document, not a record, is created. As for the NRWB, the create dimension accommodates activities such as cash receipts and printouts every time a customer shows up to settle an outstanding payment.

3.3.1.2. Capture

Capturing is the second dimension and it encompasses the personal and corporate RMS designed to capture documents to support their function to act as evidence of the social and business activities of the units responsible for the activities (Henderson & Waller, 2016; Of et al., 2013). The capture dimension encompasses the establishment of a record from the document which was created in the first dimension. In other words, the capture dimension relates to the event when the receipt is kept (as a record of the payment), perhaps put aside to be included in the organisational collection of memorabilia and not directly discarded after the expiry of the transaction period the payment was required. Organization refers to the event of saving the receipt as a part of an organisational archive together with other documents (Yeo, 2011).

3.3.1.3. Organise

The third dimension is organise, which encompasses the organisation of record management processes and investing the record with explicit elements needed to ensure that the records are available over time (Yunus & Ariffin, 2010). It focusses on the manner in which an individual or corporate body develops and defines its record management regime and, in so doing, forms the archive as the memory of its business or social functions. In this dimension, the records are arranged so they can be archived (Joseph et al., 2012).

3.3.1.4. Pluralise

Pluralize is the fourth dimension which is concerned with the manner in which the records and archives are brought into an encompassing framework in order to provide a collective social,

historical and cultural memory for institutional, social purposes and roles of individual and corporate bodies (Dikopoulou & Mihiotis, 2012; Lemieux et al., 2014). The pluralise dimension relates to the phase when the archive is opened up for other uses, and for instance, when other departments or people are granted access to consult the archive for some specific activity, such as accountants trying to do some reconciliations (Öberg & Borglund, 2006).

The records continuum model does, however, go one step further to address the continuum of individual processes (Svard, 2013). Therefore, it is suggested that the records continuum model and a somewhat more generic continuum thinking can function as a basis for a better understanding of the complexities of organisational information management. In contrast to the original records continuum model, an organisational information management aware of continuum model needs to address the plurality of the nature of documents (records) and their use (that is, beyond evidentiality). Whereas records continuum focuses on a specific genre of documents, organisational information management is essentially not only concerned with documents as evidential, transactional and contextual, but also informational and topical artefacts (Yunus & Ariffin, 2010). In the records continuum model, the four axes represent the broadening context of the evidentiality and transactionality of records, recordkeeping containers and identity of the authorities of their origin. A broader continuum model for organisational information would need to implement additional axes for capturing any additional contexts of relevance specific to the organisational information (Alegbeleye & Chilaka, 2019; Mcleod & Hare, 2010). In the context of customer information management, a cash receipt is not merely a piece of evidence of the payment for an outstanding bill, but it can also be a reminder that the customer once lived in the premises under the address on the receipt; it might state additional details of the premises and help the customer to cherish other memories associated with the once occupied premises.

Svard (2013) in his study in Swedish municipalities used the records continuum model to explore broader perspectives of preservation of digital information, the set of processes, strategies and tools used to store and access digital data for long periods of time during which technologies, formats, hardware, software and technical communities are very likely to change. The study was aimed at establishing whether the Records Continuum Model could be used to mitigate the long-term preservation challenges and facilitate the information open governance structure in some Swedish government institutions (Svard, 2013). The municipalities under the study were found to be facing challenges of lack of long-term information management policies, enterprise structure, disparate information systems, collaboration and system

integration. In Sweden, the open governance is aimed at according the general public and the media access to government information and in the process enforce the culture that public information is managed in a manner that promotes efficiency and transparency, a requirement that is shared with public institutions like the NRWB in Malawi (E-transactions Act -Malawi, 2016; Vinet & Zhedanov, 2011).

Phiri (2016) also used the continuous record model to critically explore the value assigned to the record management plans in the organizational strategy where governance, auditing and risk are important issues, particularly in universities in Sub-Saharan Africa. The studies showed that any organization can gain significant benefits from the implementation of good records management practices, such as facilitating the completion of organizational tasks and improving organizational efficiency. The NRWB generates many records in its activities that support the provision of potable water in its service areas hence these findings could be beneficial to it as well (Koltay, 2016; Phiri, 2016).

Munetsi and Khayundi (2005) too used the continuum concept to investigate the feasibility of digital records management in the Office of the Prime Minister (OTP) in the Eastern Cape Province of South Africa. The study revealed that OTP had taken significant steps to establish records management practices, but still faced many challenges when using EDRMS. The lack of skills and abilities of the staff greatly affected the use of the new system. It also noted resistance in adopting the new records management system, and it recommended the provision of training related to records management to employees (Munetsi & Khayundi, 2005). Some suggestions were also made to improve the security of records and promote the preservation of digital records in institutions. The NRWB being an institution in a country less developed than South Africa, in the same Sub-Saharan Africa may likely face the similar challenges that were noted in such a government established office in the Republic of South Africa (Borglund & Engvall, 2014; Frank, 2020).

Soyka (2013) used the records continuum model in a study on the behaviour of the administrative team for an online forum for active US military officers, how they were influencing and representing the community using the records created and accumulated on the forum. The main aim of the study was to understand how the records continuum highlights, reveals, or obscures the qualities associated with understanding the communal co-creation of records (Phiri, 2016; Vinet & Zhedanov, 2011). A key finding was that the implicit and inherent value in creating community records was hidden or not measured or not clearly seen through

the use of the continuous approach. This signified that the records continuum model creation process does not affect the future understanding of the situated context of the created records. This is important for an organisation like the NRWB as it guarantees that the records being created currently will remain informative at any point in the future (McKemmish & Piggott, 2013; Ravenwood et al., 2015; Vinet & Zhedanov, 2011).

Appiah et al. (2017) conducted a study to examine the relationship between corporate governance and records management in private and public hospitals in Ghana. The research was based on the triangulation of the Record Continuum and Stakeholders' theories. The main finding of the study was that the hospitals produced different types of records in the course of their business activities, but the existing record management standards, practices, and systems were insufficient, weakening the contribution of records in supporting the governance function in the hospitals. It also revealed the strong relationships between corporate governance and records management (Appiah et al., 2017; Ravenwood et al., 2015). These results strongly suggest that for institutions like the NRWB, good records management practices have a direct positive influence on their corporate governance.

3.3.2. Strengths of the records continuum model

In archival science, the record continuum model is considered to be a more advanced method of managing all information and continuous records. It, therefore, facilitates a proactive and holistic view of managing digital information (Mcleod & Hare, 2010). As defined by Tough and Moss (2003) a records continuum is a consistent and coherent regime of management processes from the time of the creation of records (and before creation, in the design of recordkeeping systems) through to the preservation and use of records as archives. The International Council on Archives defines the continuum concept as a consistent and coherent process of records management throughout the life of records, from the development of recordkeeping systems through the creation and preservation of records, to their retention and use as archives (Moseti, 2016). The above definitions suggest an ideal integration for documents, records and archives management.

According to McKemmish and Piggott (2013) all stages of records are interrelated forming a continuum in which both records managers and archivists are involved in the ongoing management of the recorded information to varying degrees. McKemmish and Piggott (2013) explained how the lifecycle stages that records supposedly underwent were in fact a series of recurring and reverberating activities within both archives and records management. The

underlying unification or linking factor in the continuum is the function of providing services to creators and all users (Erdélyi et al., 1975).

Alegbeleye and Chilaka (2019) say the records continuum as a model was formulated in the 1990s by Australian archival theorist Frank Upward based on four principles. The first is the concept of "records", including records with continuous value, emphasizing that they are used for transaction, evidence and memory purposes, and unified record keeping/archiving methods, regardless of whether the record is kept for a fraction of a second or a thousand years. The second is, there is a focus on records as logical rather than physical entities, regardless of whether they are in paper or electronic form. The third is that the institutionalization of recordkeeping profession's role requires a particular emphasis on the need to integrate recordkeeping into business and societal processes and purposes. The fourth point is that archival science is the foundation for organized knowledge. McKemmish and Piggott (2013) states that the continuum concept provides a graphical tool for framing issues about the relationship between records managers and archivists, past, present and future, and for thinking strategically about working collaboratively and building partnerships with stakeholders.

Alegbeleye and Chilaka (2019) says a major concern of the continuum concept as a whole must be administration efficiency. The purpose of creating these records is not for the benefit of some future archivists or historians, nor even to record important decisions or actions for future generations. They are created and managed to serve immediate operational needs.

Quisbert (2016) says the continuum model is a unified model which reflects the pattern of the continuum. The four actions continue to recur through the life of a record and cuts across the traditional boundary between records management and archives administration. The actions are the creation or acquisition of records, classification or description, its appraisal for continuing value and its maintenance and use.

The continuum approach means the end of the traditional demarcation between the functions of the records manager and the archivist. The division of activities into records management and archival phases, with the consequent division of responsibility between the records manager and the archivists, is seen by some as artificial and restrictive (Yunus & Ariffin, 2010).

Mcleod and Hare (2010) explains that the records continuum model is significant because it broadens the interpretation of records and recordkeeping systems offered by the lifecycle. Such broadening is helpful, given the variety of context in which archivists and records managers operate and in which archives and records are used.

The continuum model reminds us that records (including archives) are created and maintained for use as a result of business and administration functions and processes, rather than as ends in themselves (Öberg & Borglund, 2006).

The continuum model emphasizes cooperation beyond the walls of repositories, especially between closely related, if occasionally estranged, professions of archives administration and records management, a cooperation that is more important than ever in the contemporary climate of outsourcing and cross-sectoral working (Appiah et al., 2017).

On the other hand, the lifecycle is a concept that draws an analogy between the life of a biological organism, which is born, lives and dies, and that of a record, which is created, is used for so long as it has continuing value and is then disposed of by destruction or by transfer to an archival institution (Higgins, 2008).

McKemmish and Piggott (2013) say the effective management of records throughout their lifecycle is a key issue in civil service reform. Without the lifecycle concept, vast quantities of inactive records clog up expensive office space, and it is virtually impossible to retrieve important administrative, financial and legal information. Such a situation undermines the accountability of the state and endangers the rights of the citizen.

Without a management programme that controls records through the earlier phases of their lifecycle, those of archival value cannot be identified and safeguarded so that they can take their place in due course as part of the nation's historical and cultural heritage.

The lifecycle concept has been useful in promoting a sense of order, a systematic approach, to the overall management of recorded information. However, juxtaposition of the records continuum and the lifecycle model shows that advantages of the records continuum models outweigh the advantages of the lifecycle concept. Quisbert (2016) states that the records continuum's primary focus is the multiple purpose of records. It aims at the development of record keeping systems that capture, manage, and maintain records with sound evidential characteristics for as long as the records are of value to the organization. It promotes the integration of record keeping into the organization's business systems and processes.

According to McKemmish and Piggott (2013) records managers and archivists are brought together under an integrated recordkeeping framework with the same goal: to guarantee the reliability, authenticity, and completeness of records. The framework provides common understanding, consistent standards, unified best practice criteria, and interdisciplinary

approaches in recordkeeping and archiving processes for both paper and digital worlds. It provides sustainable recordkeeping to connect the past to the present and the present to the future. It can coherently exist in a broader dynamic, changeable context that can be influenced by legal, political, administrative, social, commercial, technological, cultural and historical variables across time and space.

The continuum purpose-oriented systems approach to records management fundamentally changes the role of recordkeeping. Instead of being reactive, managing records after they have been created, recordkeeping becomes proactive.

However, understanding the relationships between the axes in the record continuum (identity, transactionality, recordkeeping, and evidence) and recalling that these work in concert with the records creation process and properties, may not always be emphasized when discussing records. In addition, the records continuum dissembles the record from its situated context in order to understand its position within time and space (Hussin et al., 2018). The mapping of the axes to the practical activities in basic records management may not always be easy for low qualified individual in the field of records management. So, in general, the records continuum theory is more complex and sometimes not easily understood.

Amongst the two concepts, the continuum concept is the best practice for managing both electronic and paper records when the aim is to improve responsiveness, increase efficiency, and satisfy user's requirements. The records continuum model's ideal integration can be viewed as the best framework for managing records in a broader context of archival science to connect the past to the present and the present to the future (Mcleod & Hare, 2010).

NRWB being a public institution is required to have its records accessible by the general public should there be such a need, for as long as the organisation exists. In addition, the institution is expected to make sound and informed decisions based on the trends of information in the records that it generates in its routine operations in order to project magnitude of future water demands in its service areas. With these requirements, the record continuum approach is more ideal to address the public's need to access information at any given time and the building of a strategic organizational memory for long term decision making hence the researcher's use of the records continuum model (Yeo, 2011).

3.4. Conclusion

This chapter largely focused on the relevant literature on the most common records management theories and principally highlighted the concepts behind the records management

models. As observed, there are two most common theories on records management, namely the life cycle model and the records continuum model. Literature has shown that the lifecycle model is more suitable to paper-based records management systems. Its way of handling records is similar to life of an organism where records are expected to go through stages or status from creation through use and maintenance to ultimate disposal, and this makes it easier to apply on paper-based records. On the other hand, the records continuum concept is more suited to electronic records where records are more unlikely to reach a definite inactive point but are instead migrated into new formats following developments in technology. Electronic records always need to be transacted, migrated and converted by hardware and software in order to be readable by their creators and users. The NRWB, just like many modern organisations, is adopting records management systems that are more electronic based than paper-based. It is, therefore, more ideal to use the records continuum model in examining the records management practices at the NRWB than the lifecycle model.

CHAPTER FOUR: METHODOLOGY

4.1. Introduction

The research methodology is the philosophy or general rule, which manages research (Cresswell, 2014). The research methodology is further guided by approaches that are used to gather the data (Eaves, 2014; Keller, 2015; Williams & Kerby, 2017). This chapter discuss the research paradigm that shaped the study, research design that was used to conduct the study, the methods that were used to collect data, the population that was studied and data analysis, among others.

4.2. Research Paradigm

A paradigm is a means of viewing the world, influencing but not controlling the assumptions and direction of research (Cresswell, 2014). According to Pickard (2013), paradigms include the entire constellation of beliefs, values, and techniques shared by members of the professional community. There are several paradigms including positivism, post-positivism, constructivism, interpretivism and pragmatism. The study employed an interpretive approach. Interpretivism usually seeks to understand a particular context, and the core belief of this paradigm is that reality is socially constructed (Cresswell, 2014). Interpretivist research does not seek answers for the study in a rigid way but approaches reality from the subjects, the people who own their experiences and are of a particular group or culture. These methods ensure an adequate dialog between the researchers and those with whom they interact in order to collaboratively construct a meaningful reality (Joseph et al., 2012; Peng et al., 2016). This was instrumental in producing an understanding of the context of the record management practices at Northern Region Water Board.

4.3. Research design

Research design is a plan or framework that has been created to find answers to research problems (Cresswell, 2014). A design is used to structure the research and show how all major parts of the study work together to address the central research questions. The angle may be quantitative such as how many or how often. It may also be qualitative in order to answer questions such as why or how. Examples of research designs includes case studies, statistical methods and social surveys (Alcaine, 2016; Celliers, 2009). The researcher adopted an interpretive case study design to address the research questions. A case study design was preferred because it allows a lot of details to be collected that would not normally be easily obtained by other research designs. Also, case studies tend to be conducted on rare cases where

large samples of similar participants may ot be available (Abdul et al., 2018; Henderson & Waller, 2016; Velsberg et al., 2020).

4.4. Research methods

Research methods are the strategies, processes or techniques utilised in the collection of data or evidence for analysis in order to uncover new information or create better understanding of a topic. There are different types of research methods which use different tools for data collection. These include qualitative, quantitative and mixed methods (Cresswell, 2014). Qualitative methods are those research techniques that employ non-mathematical, naturally occurring, and non-experimental research practices in order to uncover the meanings and significance of the wide variety of evidence that social researchers collect. On the other hand, the quantitative approach involves the generation of data in numerical form which can be subjected to a rigorous quantitative analysis in a formal and rigid fashion. Mixed methods research incorporates elements of both qualitative and quantitative approaches (Cresswell, 2014; Hüppe & Wawroschek, 2011). Research can either employ a qualitative approach, quantitative approach or a mixed approach.

This research employed a qualitative approach. Qualitative research gathers data about lived experiences, emotions or behaviours, and the meanings individuals attach to them (Cresswell, 2014). It assists in enabling researchers to gain a better understanding of complex concepts, social interactions or cultural phenomena. This type of research is useful in the exploration of how or why things have occurred, interpreting events and describing actions. Qualitative research data collection methods are time consuming, therefore data is usually collected from a smaller sample than would be the case for quantitative approaches therefore this makes qualitative research more expensive. The benefits of the qualitative approach is that the information is richer and has a deeper insight into the phenomenon under study (Eaves, 2014; Ponelis, 2015). A qualitative research method was used in this study in order to gain as much data as possible from a relatively small sample size that was available to address the research questions. The qualitative method allowed the participants to express themselves freely while providing data (Haddow & Mamtora, 2017; Marvasti, 2018).

4.5. Setting

The study was conducted at the NRWB.

4.6. Study population

The study population comprised NRWB employees whose duties directly involve the creation and management of records through the daily operations of the institution. The study population is presented in Table 1.

Table 1. Study population

Department	Position	Numbers
Finance	Accountants	8
	Assistant accountants	14
	Cashiers	16
Operations	Procurement supervisors	2
	Procurement clerks	4
	Store supervisors	4
	Store clerks	12
Administration	Human Resources Officers	3
	Registry clerks	6
	Secretaries	6

Source: NRWB (2019)

4.7. Sampling and sample size

This study adopted purposive sampling in choosing its respondents. Purposive sampling can be viewed as judgemental form of sampling where the researchers, based on their knowledge of the population, deliberately picks certain individuals for their relevance to issues being investigated (Cresswell, 2014; Gangwar & Date, 2016). The purposive sampling technique was used in this study with the aim of identifying relevant participants. For example, the study targeted those working in relevant departments directly involved with creation and management of records. Therefore, only heads of sections were included in the sample. In a large organizational setup in which NRWB falls, supervisors are akin to heads of sections. In total, the sample size was 8, comprising two Accountants, two Procurement Officers, two Stores Officers and two Human Resources and Administration Officers.

4.8. Data collection and management

There are several data collection methods which include questionnaires, interviews, observations and documentary sources. Each method has advantages and disadvantages (Farr, 2008; Hickson, Poulton, Connor, Richardson, & Wolski, 2016). For instance, an interview has a high response rate than the questionnaire as some respondents may not return the questionnaire. An interview also accord the researcher with the ability to probe and make follow up questions (Adu, 2018). To achieve a high response rate and considering that it is qualitative research, this study employed appendices A and B to collect data on various variables on records creation practices, records preservation strategies and factors affecting records management as shown in Table 2 below. The participants were purposely selected from departments which are routinely involved in records creation for the organisation. To improve data collection efficiency, triangulation or two methods (interview and observation) of data collection were used.

Table 2. Data collection

Research Questions	Variables	Data collection instruments
What records creation practices exist at Northern Region Water Board	Data creation, data formats, sources of records, policies, ICT infrastructure, organizational memory, record management system	Interview guide and Observation guide
What records preservation strategies exist at Northern Region Water Board	Skills, competencies, training, ethical issues, legal issues, policies, data storage facilities, ICT infrastructure, organizational memory, management support, record management system	Interview guide
What factors affect records management at Northern Region Water Board	Training, funding, ICT infrastructure, policies, legal issues, ethical issues, management support, data storage facilities, record management system	Interview guide and Observation guide

The researcher asked open-ended as well as semi-structured questions whilst listening to respondents and probing for further information. Once the interview was conducted, the researcher sent summation notes of the interviews back to the respondents for any amendments, ultimately allowing them to include more information, which may have been missed during the interview; a technique which is recommended by Adu (2018) and Mucheru (2013).

4.8.1. Interviews

The researcher asked open-ended and semi-structured questions whilst listening to respondents and probing for further information. The response rate for the interviews was 100 % indicating that all targeted participants were interviewed. The interviews were recorded after consent was obtained from the participants. The interviews' duration was about 20-30 minutes and were conducted in their working environment. Once the interview was conducted, the researcher sent summation notes of the interview back to the respondents for any amendments, ultimately allowing them to include more information, which may have been missed during the interview; a technique, which is recommended by Adu (2018) and Mucheru (2013).

While the interview process is a valuable way of gathering rich and detailed data, it can sometimes be a resource demanding and time-consuming process. The interview sessions can differ as each interview is unique and the quality of the responses obtained from different participants may vary significantly. Furthermore, it can be a challenge to gain reliable data on the research subject if there are a small number of participants involved, unlike the quantitative approach which involves large numbers of participants. In some circumstances, interviews can provide more extensive and reliable data results (McAlearney et al., 2012). In this study, it was challenging to interview all the participants in a short period of time as most of them were not routinely available in their offices.

4.8.2. Observations

Observations were also used to collect data in order to get a better understanding of the environment being examined. The observations mainly targeted the records creating environment and the records storage facilities. During the process, notes were taken in order to record the environment and were later used to provide data which may have been missed in the face-to-face interviews.

4.9. Data analysis

Researchers such as Upadhyay (2013) have defined data analysis as the process of making sense of, and constructing meaning of collected data. When analysing data, the qualitative

researcher attempts to make sense and interpret the phenomena in terms of the meaning the participants place on them (Pratchett, 1999). Since this study used interview guide and observation guide as means of collecting data, the data obtained was analysed thematically. Observation data analysis involved coding of observation notes (Yu & Qian, 2018). Ponelis (2015) describes thematic analysis as a process of identifying themes or patterns with the aim of generating meaning within the raw qualitative data. A good thematic analysis interprets and makes sense of the raw data, moving beyond describing what is said to focus on interpreting and explaining it (Nowell et al., 2017).

After the data was transcribed, it was coded, analysed, interpreted and verified. The process of transcribing the interviews can help the researcher to gain more understanding of the subject from repeatedly listening to and reading the transcribed interviews (Nowell et al., 2017; Zabadi, 2016). Coding was done once all the data was fully transcribed. The data was then analysed, categorized and organized into themes and further sub-themes which emerged through the coding process. The next stage involved interpreting the data by identifying any reoccurring themes throughout and highlighting any similarities and differences in the data. The final stage involved data verification, a process that involves checking validity of understanding by rechecking the transcripts and codes again, thus allowing the researcher to verify or modify hypotheses already arrived at previously (Cresswell, 2014; Henderson & Waller, 2016; Manolov & Moeyaert, 2017). In analysing the data, the researcher identified themes latently in order to examine the underlying ideas, assumptions, conceptualisations and ideologies that are theorised as informing the semantic content of the data.

4.10. Validity and reliability

Reliability in research is the degree of consistency an instrument or procedure demonstrates while validity is that quality of a data gathering instrument that enables it to measure what it is supposed to measure (Williams & Kerby, 2017). The researcher will ask open-ended and semi-structured questions whilst listening to respondents and probing for further information, where necessary. Other ways to ensure validity include providing as much information as possible by formulating an interview guide with the questions that will be asked during the interview. Once the interview is conducted, the researcher will send summation notes of the interview back to the respondents for any amendments, ultimately allowing them to include more information, which may have been missed during the interview; a technique, which is noted by Adu (2018) and Mucheru (2013).

Reliability concerns the findings of the research. Research that can be repeated is said to be reliable research. More simply stated, reliability measures the extent to which conclusions can be drawn and reiterated should the investigation be repeated (Cresswell, 2014). The goal of reliability is to minimize errors and biases in a study. In this study, the researcher attempted to clarify the procedure of the research and hence produced practical details of the interviews. In strengthening reliability and improving validity, triangulation or multiple methods of data collection and analysis was used, including interviews and observations.

4.11. Ethical consideration

The researcher obtained ethical clearance from the Mzuzu University Research Ethics Committee and the Management of the NRWB to carry out the study at Northern Region Water Board. The data obtained from the investigation was protected with utmost confidentiality and was used for academic purposes only.

4.12. Conclusion

This chapter detailed research methodology employed in the study. It explains the tools used to collect the data as being the interview guide and observation guide. The chapter also highlights the study setting, study population, the sampling techniques used to collect the data. In short, the chapter provides the overall process of data management.

CHAPTER FIVE: DATA PRESENTATION AND ANALYSIS

5.1. Introduction

The primary purpose of this study was to investigate records creation practices at the NRWB. In order to provide answers to research questions cited in Chapter One the study used the interpretive research paradigm. The research employed a qualitative case study, and used an interview and an observation guide to collect data. A purposive sampling was used over the population to select the sample. By interviewing the selected participants and analysing the collected data, valuable information was obtained about records creation practices, records preservation strategies and the factors that affect records management at the Northern Region Water Board. The objectives of the study as identified in the first chapter were to:

- Determine records creation practices at the Northern Region Water Board;

- Analyse records preservation strategies at the Northern Region Water Board;

- Investigate factors that affect records management at the Northern Region Water Board.

5.2. Demographic data of participants

There were eight participants that were interviewed in this study. Two participants were interviewed from each of the following: Finance department, Human Resource and Administration department and four from the Operations department. The four from the Operations department comprised two each from Procurement section and Stores section, respectively, as shown in Table 3 below.

Table 3. Demographic data of participants

Participant	Department	Position	Sex	Qualification	Role
1	Operations (Stores)	Stores Officer	F	Bachelors in Procurement and supply	Goods storage and movements transactions
2	Operations (Procurement)	Purchasing Officer	M	Diploma in Procurement	Purchasing of goods and services
3	HR and Admin	Accountant	F	Bachelors of Accountancy	Payroll and wages transactions

4	Finance	Accountant	M	Bachelors of Accountancy	Cash collection transactions
5	Operations (Procurement)	Purchasing Officer	M	Graduate Diploma in Procurement	Purchasing of goods and services
6	Finance	Accountant	M	Bachelors of Accountancy	Bank and cash reconciliations
7	HR and Admin	HR and Admin Officer	M	Bachelors of Administration	Staff records transactions
8	Operations (Stores)	Stores Officer	M	Advanced Diploma in Procurement and Supply	Goods storage and movements transactions

5.3. Records creation practices

The study looked into several aspects in records creation practices at the NRWB. Some of the key aspects of the records which were investigated included types of records the departments create in their daily routines, storage, sharing and ways of accessing both electronic and paper-based records. The departments that were involved in the study are the Administration department, the Finance department and the Operations department.

5.3.1. Type of records

This theme aimed at gathering information about the types of records created and received by the NRWB. Interview participants were asked to indicate the type of records they create in their routine duties. The findings from both interviews and observations indicate that the Northern Region Water Board creates different types of records in form of manual and electronic records hence the need for appropriate records management practices. The various types of records created at the NRWB are presented in Table 4. As can be seen in Table 4, the procurement section creates records on purchase of goods and services, the finance creates revenue and expenditure transactions while the administration largely captures staff related transactions.

Table 4. Type of records

Name section/Department	Type of records	Selected quotes from respondents
Procurement/Operations	• Purchasing records	*We deal with purchasing of goods and services for the Board. We are mostly into issuing requests for quotations, getting quotations from the suppliers. So basically, we are capturing prices and returned specifications from the suppliers" (Participant 2).*
Stores/Operations	• Inventory records	*Normally inventory records are captured, records like delivery notes, goods received notes, purchasing orders and requisitions" (Participant 1).*
	• Audit records	*There are a number of records that we capture like duly approved user requests for procurement of materials. Once request have been received, we issue out requests for quotations to potential suppliers. When responses are received, they are attached to initial user requests together with the requests for quotations in the system for approval by the supervisor. Once approved by procurement supervisor the system automatically seeks the endorsement of the Finance Manager to finance the procurement. After the Finance manager's endorsement, the system requests the approval of the Head of Department. After the approval of the Head of Department, a purchase order is generated by the procurement section and forwarded to the supplier so that the requested goods or services can be delivered" (Participant 5).*
Finance	• Revenue and expenditure records • Financial records	*"Our section is a revenue section so we generally capture cash records into the system; sometimes the records are captured manually but eventually updated into the system, issuing cash receipt to customers in the process. The records captured are then used to generate reports, generally cash reports" (Participant 4*
Administration department	• Payroll • Wages • Pensions • Employment • Medical • Training	*"Basically, we capture data related to payroll, data that is related to wages and data that is related to pensions" (Participant 3).* *"We issue employment letters, transactions on training, medical records and general staff records" (Participant 7).*

The quotes from the respondents reveal that the institution creates diverse types of records in its routine operations.

5.3.2. Storage of records

This theme investigated the departments' stores both electronic and paper-based records that are created in their daily operations. The study established that there are various ways the departments store their everyday records. Table 5 below shows how electronic records are stored.

Table 5 Storage of electronic records

Storage facilities	Storage of electronic records	Selected quotes from respondents
Centralised ERP system	• Centralised electronic record storage	*"The electronic based data is stored in the Boards ERP system by scanning the documents and uploading them into the system" (Participant 1).* *"All the processes are happening in the system and therefore all the records are kept in the system". (Participant 5).* *"Basically, the electronic records are always attached and stored in the system" (Participant 2).* *"Documents are scanned and attached to purchase orders in the ERP system" (Participant 8).*
Personal Computers	• Decentralised electronic records storage	*"The data is stored in classified manner in specific files or folders using specific dates on computers" (Participant 3).* *"Electronic data is kept in specific folders created on laptops and computers" (Participant 4).* *"In the course of our work we create files mostly in Microsoft Excel which we store in the computers" (Participant 6).* *"Electronic records are kept in specific folders on the computer." (Participant 7).*

While Table 6 below shows the storage ways for paper-based records.

Table 6 Storage of paper-based records

Storage facilities	Storage of paper-based records	Selected quotes from respondents
Office storage	• Shelves	*"Paper based data is stored in files arranged by supplier name and kept on shelves" (Participant 1).* *"The paper-based records are filed and put on the shelf in the office" (Participant 2).* *"Paper based records are stored in the lever arch files and filed according to dates" (Participant 4).* *"Paper based data is stored in files which are indexed by date or month after completion of the processes" (Participant 3).* *"The hard copies are kept in files in our offices" (Participant 6).*

		"Paper based are kept in personal employee folders or files" (Participant 7).
Office storage	• Cabinets	*"Paper based data is stored in files which are indexed by date or month after completion of the processes and kept in cabinets" (Participant 3).* *"Paper based data is filed and kept in file cabinets" (Participant 5).* *"Invoices are photocopied, attached to delivery notes and filed. The files are recorded according to names of the supplier and kept in cabinets" (Participant 8).*

The NRWB uses the ERP in storing the majority of the electronic records with some being stored in users' computers. The physical storages in use are mainly the shelves and the cabinets.

5.3.3. Ways of sharing records

Under this theme, the researcher solicited data about how records are shared at NRWB. According to the results, the NRWB generates both electronic and paper-based records. These records are shared amongst various departments in the course of the institution's daily operations.

5.3.3.1. The sharing of paper-based records

According to the results, paper-based records are usually shared in paper-based folders as explained by the following quotes:

- *Other departments are given the files which contain the data being requested for in case of manual records. As for the electronic data everyone who has the necessary access rights is able to access the data from the system* (Participant 1).

- *For paper-based records someone who is looking for information has to come and ask for them* (Participant 4)

- *Most of the information is kept in the registry where everyone can access or request for it but sensitive information is kept in files locked up in the drawers so are produced on demand. Some other sensitive information is not shared to anyone anyhow but general information is stored in central places where those who need it can access the files* (Participant 7).

- *Files are kept on shelves and in cabinets hence available to all staff members* (Participant 8).

From the interviews that were conducted most electronic records are shared over the network with password protection. The majority of electronic records captured directly into the ERP are automatically shared to all users who have been assigned appropriate system access rights.

5.3.3.2. The sharing of electronic records

The ERP that is in place plays a major role in the sharing of the electronic records as highlighted in the following quotes:

- *Since we use the ERP system, the files can be accessed by any authorized user. For example, when processing a requisition for a given procurement, the documents are attached to that requisition in the system so whoever accesses the requisition is also able to access the documents that are attached to that requisition within the system* (Participant 2).

- *For electronic data members can access the data from the system or shared folders using access rights assigned* (Participant 3).

- *Anything that is captured in the system is available for any authorized user to access including users from other departments or sections* (Participant 5).

- *Usually we have cutoff dates; each one of us is responsible to post into the system all necessary information by that cutoff date. Once the information is posted in the system everyone with systems necessary rights is able to access the data* (Participant 6).

The results suggest that the sharing of electronic records is aided by the network that exist in the organisation and the system that is in place to support business operations. The results show that some records which employees create are stored within their personal computers.

5.3.4. Institutional guidelines on records creation practices

This theme sought to establish the availability or lack of the institutional guidelines on records creation practices that exist at the NRWB. The study reveals that there is lack of formal guidelines on the creation of records as explained in the following quotes:

- *There are procedures available to follow on how to create or capture the records in the system, there is, however, no written policy on record managements* (Participant 1).

- *There are standards being followed. For example, use of unauthorized external media is not allowed. But I am not aware of any institutional policy* (Participant 2).

- *I am not aware of any existing policy or guidelines on records management; I am not aware of any policy to promote staff compliance* (Participant 3).

- *There are no procedures to guide records creation and preservation; there is no institutional policy on record management therefore there is no benchmark* (Participant 4).

- *There are no challenges in keeping records at the moment, but I am not aware of any written policy on records management; System based transactions compliance is enforced by access rights* (Participant 5).

- *I am not aware of any guidelines or procedures; I am not aware of any institutional policy in place* (Participant 6).

- *There is no policy that enforces records management, there are no guidelines to enforce compliance by staff* (Participant 7).

- *There is no policy that guides record management, there are no guidelines to enforce compliance* (Participant 8).

The findings shows that procedures may be in place in the institution that guide the overall processes of creation of records but they may have not been formally documented. The findings established that electronic records creation is guided by the institution's electronic system where data is captured through pre-defined electronic system forms while paper-based records are captured through pre-designed manual forms. These measures enforce the manner and nature of data to be captured, providing guidelines in the data capturing process.

5.3.5. Observations on records creation practices

As already indicated in Chapter 4, some data was also collected through observations. It was noted through observations that the NRWB operates a hybrid system of creating records in the sense that some records are captured manually while others are captured in the electronic system. The manual records are captured into pre-designed information capturing forms which serve as guidelines in the overall handling of the manual records.
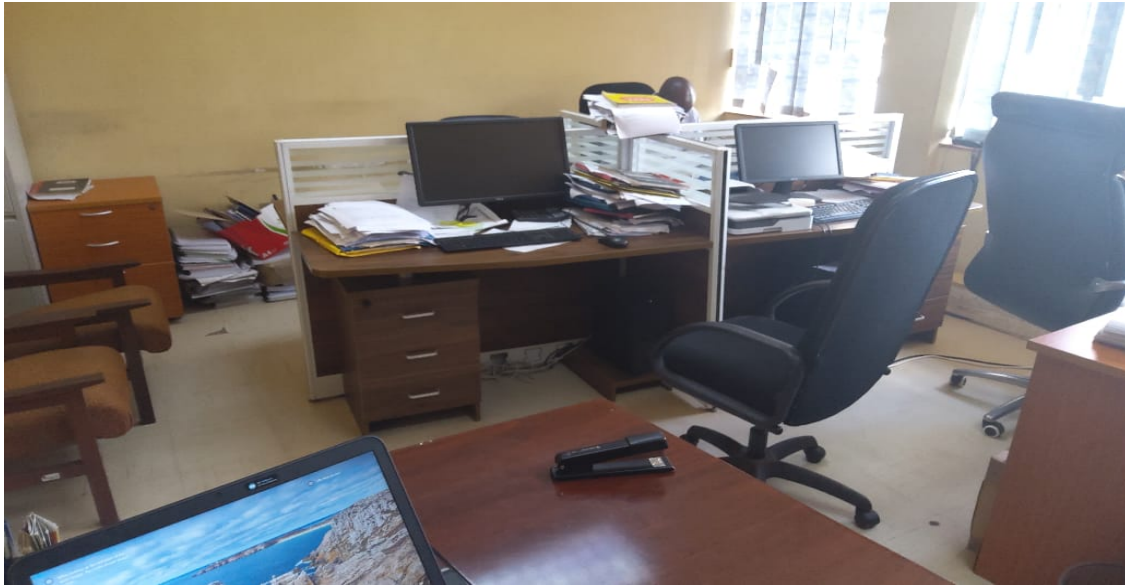
Figure 2. Capturing paper-based records

Electronic records are directly captured in the ERP. The ERP has pre-designed data capturing screen which guide the records creation process. Access to the data capturing screens is controlled by the system user access rights hence only authorized individuals are able to capture specific data. The electronic data is captured using desktop computers and laptops.

Figure 3. Capturing electronic records

In the observed offices, Table 7 below shows the number of people against the number of computers and cabinets available in the offices.

Table 7. Number of computers against number of employees

	No of people in the office	No of computers	No of cabinets
Administration Section	5	5	3
Finance Section	6	6	2
Procurement section	5	5	3
Stores Section	6	6	2

These results suggest that, largely, the NRWB creates a wide range of records in its day-to-day operations. The records being created are in support of evidence of business transactions, the accountability for goods movements; some records support the organisational operations while others assist in managerial decision making.

5.4. Records preservation strategies.

The NRWB, just like all institutions (public or private), is expected to follow statutory requirements like the presentation of yearly audited accounts, among others. Being a public institution, NRWB is also accountable to the general populace, especially following the enactment of the access to information act of 2016. The study reveals that the staff at the NRWB recognises the importance of preserving the records that are created in their daily activities as explained in the following quotes:

- *It is important for the Board to preserve the records because it is a public institution and it is accountable to the public. So, whenever the general public wants information, the Board is obliged to provide that information* (Participant 1).

- *Information is key for the sustainability of any organisation* (Participant 2).

- *It is important to preserve the records as being a public institution such records are routinely audited, also for the benefit of new employees to learn about the processes that are followed in carrying out the duties and also to build up the organisational memory* (Participant 3).

- *It is necessary to preserve records for sustainability or organisational memory; records are also required for audit purposes* (Participant 4)

- *It is very necessary to keep records because it then becomes easier to refer back to them* (Participant 5).

- *It is paramount to preserve records because record keeping is best practice for any company; without records no company can survive as you always need to check past information* (Participant 6).

- *Records are very important for auditing purposes and future reference* (Participant 7).

- *It is necessary to preserve records for future use* (Participant 8).

As per the quotes, the staff in the institution recognises the importance of preserving the records in order to meet statutory obligations and for the smooth continued operation of the organisation.

5.4.1. Facilities to preserve records

The Board generates considerable amounts of records in its daily operations as highlighted in subsection 5.2.1 above and these records need to be stored. Therefore, the researcher found out the facilities used to store both types of records which are paper and electronic.

5.4.1.1. Facilities for preserving paper-based records

As it has been stated earlier, paper-based records form a significant volume of records that the NRWB generates on a daily basis. Interviews conducted revealed the facilities used to store these records as evidenced by the following quotes:

- *Paper based data is stored in file cabinets* (Participant 1).

- *Manual records are stored in filing cabinets and on shelves* (Participant 2).

- *The lockable filling cabinets and the shelves keep paper-based data* (Participant 3).

- *Paper based records are stored in files, shelves and cabinets* (Participant 4).

- *Paper based records are kept in files which are then stored in file cabinets* (Participant 5).

- *The hard copies are kept in the shelves, lockable drawers* (Participant 6).

- *Paper based data is kept in files, cabinets, drawers and shelves* (Participant 7).

- *Paper based data is kept in files, cabinets, drawers and shelves.* (Participant 8).

Observations supported the respondent's statements as shelves and cabinets were visible in the vicinity in the offices as showed in the figure below.

Figure 4. Preservation of paper-based records.

Basing on the respondents' quotes, the common tools in use are the files, the drawers, the shelves and the cabinets.

5.4.1.2. Facilities for preserving electronic records

The study showed that the majority of the electronic records are captured in the ERP system whose data is backed up by the ICT section following existing disaster recovery guidelines as highlighted in the following quotes:

- *Electronic records are kept in the Boards ERP system which is backed up by the ICT section* (Participant 1).

- *Electronic based data is backed up through the ICT recovery plan. The Board keeps data backups away from the building* (Participant 2).

- *The computers keep electronic based data* (Participant 3).

- *Electronic records are stored on computers, shared folders on servers, external hard drives* (Participant 4).

- *Electronic records are kept in the system that is used to generate the records* (Participant 5).

- *The electronic data is preserved in system backups* (Participant 6).

- *Electronic based data is stored in folder that are created on computers* (Participant 7).

- *Electronic data is stored in shared network drives on the computers* (Participant 8).

The ERP that stores the electronic records is hosted in the servers that the NRWB host within the Head Office premises as observed from Figure 5 below.

Figure 5. Servers hosting the ERP.

The responses suggest that the institution's ERP system plays a major role in the preservation of the electronic records. The ERP system's data is managed by the ICT section

5.4.2. Institutional records centre

The study showed that the NRWB operates an archiving site that is situated away from the main premises and older paper-based records are routinely moved to the archiving site as elaborated in the following quotes:

- *Records which are under five years are kept within the office. Records older that seven years are sent to archives* (Participant 1).

- *We follow standard guidelines which require records to be kept for at least 5 years, after 5 years the records are transferred to archive centre. The long-term archiving process is handled by the registry. There is no sectional guideline* (Participant 2).

- *Records which are below seven years old are kept within the department, those which are seven years older are sent to archiving site* (Participant 3).

- *Records are kept until the audit is done, and thereafter they are transferred to archives* (Participant 4).

- *All records which are newer than 5 years are kept, those which are 5 years old are sent to archives* (Participant 5).

- *There are other records which the department keeps forever, there is some information which is bulky and is sent to archive* (Participant 6).

- *Some of the information is kept in the registry, some is kept in the offices while other records are sent to an offsite storage* (Participant 7).

- *Newer records under 5 years are kept within the office while older ones are sent to archives* (Participant 8).

As observed from the participants' responses, the preservation of records is at the centre of routine duties as the business operations demand constant reference to past information in order to come up with sound decisions on the daily tasks, as well as satisfy statutory obligations. The archiving site for long term preservation of the paper-based records is shown in Figure 6 below.

Figure 6. Off-site archival centre

As revealed in the participants responses, apart from the electronic records being stored in the main ERP, some data that is mostly created in the course of working is kept on personal computers. These computers are on the Boards network and are protected by passwords. All users are assigned domain accounts and passwords, so for one to access the stored files on the computer, he or she has to supply credentials which are accepted on the Boards network. The study showed that the paper-based records are mostly kept in folders. The folders are then stored in cabinets and shelves. It was also revealed that newer paper-based records are usually kept in files which are in turn either stored in cabinets or on shelves. Those records that are over five years old are routinely sent to an archiving site away from the offices.

5.5. Records management policies and procedures

The theme aimed to investigate the presence or lack of formal guidelines that are followed in the general handing of the records that the NRWB creates on a daily basis. Most participants indicated that there are no written organisational policies or formal guidelines to follow in the creation and management of records at the NRWB as evidenced by the following quotes:

- *There are no formal procedures that are followed in capturing the data in our section. But there are procedures available to follow on how to create or capture the records in the system.* (Participant 1).

- *At the moment we don't have formal guidelines. The demand of our job dictates the capturing of the data. For example, you will always have an auditor who will want that information, so we all know that we need to have it for auditors but would specifically say there are no official guidelines* (Participant 2).

- *I am not aware of any existing policy or guidelines on records management.* (Participant 3).

- *There are no institutional guidelines but accounting standards are followed. Not aware of any policy to promote staff compliance.* (Participant 4).

- *Users are categorized into roles depending on seniority; what clerks capture is different from what supervisors capture similarly what supervisors capture is different from what Heads of Department capture* (Participant 5).

- *Records are arranged by location of employee duty station and seniority of members of staff so that serves as guidelines. There are no guidelines to enforce compliance by staff* (Participant 7).

However, the results revealed that there are general procedures which are in place to guide employees in handling records as attested by the following responses from participants:

- *There are standards being followed. For example, the use of unauthorized external media is not allowed. Not aware of any institutional policy* (Participant 2).

- *No official guidelines are available, the informal guidelines have been developed through experience* (Participant 3).

- *System based transactions compliance is enforced by access rights. I am not aware of any institutional guidelines (Participant 5)*

- *There are procedures available to follow on how to create or capture the records in the system. However, there is no institutional policy on record management therefore there is no benchmark"* (Participant 6).

Since most organisations normally use printed forms to capture paper-based data and system-based forms to capture electronic data, such forms act as guidance to employees on what is required to capture as records. The NRWB also relies more on such forms as an adopted practice.

5.6. Security measures for protecting records

One of the main priorities in records management is the security of the records themselves. In this item, the researcher asked participants to mention or explain measures that they follow to prevent accidental loss, unauthorized access or destruction to the records. The participants mentioned a number of these measures as presented in Table 8 below.

Table 8. Security measures for protecting records

Theme	Quotes	Key measures as isolated from the quotes
Unauthorized access	- *Paper based records are kept under key. Electronic based records are protected by user rights* (Participant 1). - *Records in the system are protected by system passwords, only authorized individuals who have necessary rights can access. For the paper-based ones, we make sure the office is locked* (Participant 2).	- Surveillance system - Lockable cabinets - Lockable drawers - System passwords

	• *Lockable cabinets are used to protect physical data. For electronic data frequently changing password are used to protect the data.* (Participant 3) • *Electronic records are password protected. Paper based records are kept under key and whoever wants to access signs for them in a register* (Participant 4). • *The Board has surveillance system to monitor visitors to the office building. Electronic data is protected by system access rights, where only authorized users access the data with passwords. For hard copies, security is enforced by lockable doors and drawers* (Participant 6). • *Files are kept in lockable drawers and cabinets while electronic records are stored in password protected computers. Paper based records are kept under key and whoever wants to access signs for them in a register* (Participant 8).	
Accidental loss or destruction	• *Electronic based records are kept on servers and backups. Paper based records movements are registered and can be easily tracked by the register* (Participant 1). • *For electronic records, there is a backup in the system through ICT on the servers. For the hard copies we do have fire extinguishers within the building* (Participant 2). • *Electronic records are kept on computers and servers which are protected by passwords. For physical records no proper measures are in place apart from elevated shelves to protect the records in times of offices being flooded with water* (Participant 3). • *Since we share information across departments, whoever gets the files signs in a log book. Normally files are kept for a*	• Server backups • Log books • Fire extinguishers • Elevated shelves • File cabinets • File drawers • System passwords

	period of five years before being taken to archives. The files are kept on shelves which are elevated to protect them from destruction by water in offices. Electronic records are protected by use of passwords which enforce access rights (Participant 5). • *We have had incidents where the offices were flooded with water from an unattended water tap during night time, but since the cabinets and drawers are elevated, the impact was not much. We also have guards on the lookout (Participant 6).* • *Files movements are registered in a log book while electronic records are stored in password protected computers (Participant 8).*	
Deterioration	• *Files are kept on shelves which are elevated (Participant 1).* • *The filing is sufficient to protect the records as the shelves are well done (Participant 2).* • *Physical records are kept on elevated shelves and in case there could be fire all of them will be destroyed. Electronic data is kept in computers and external drives (Participant 3.* • *The shelves used to keep the records are elevated hence safe from contamination from water and dust (Participant 4).* • *Files are kept on shelves which are elevated from the floor and the files are kept clean so they don't get contaminated by dust (Participant 5).* • *Records are kept in well ventilated, well cleaned offices and are placed on elevated shelves (Participant 7).*	• Elevated shelves • Computers • Ventilated offices
During disaster	• *The servers are backed up and data can be retrieved after a disaster. But there are no strategies for paper-based data (Participant 1).*	• Server backups • External hard drives

	• *At the moment I haven't come across any strategy for paper-based records. But for the electronic records the ICT server backups protect the records* (Participant 2). • *There are no strategies to protect physical records but for electronic records there is the organisational backup system and external hard drives* (Participant 3). • *There are no institutional guidelines but electronic records are kept in folders on the computers and external drives. The paper-based data is stored in the archives after auditing* (Participant 4). • *In terms of electronic records, ICT make routine backups on protecting the records and also facilitate recovery during disaster* (Participant 5). • *In the offices we have fire extinguishers, alarms and we also ensure water taps are well closed before leaving the building. That's the strategy the Board is following* (Participant 6). • *Electronic records are backed up by ICT so they can be recovered after a disaster. Paper based records are sent to archives* (Participant 7). • *There is no strategy to protect the records from disaster* (Participant 8).	• Fire extinguishers • Fire alarms • Archives centre

The results show that the Board has in place measures aimed at safe guarding the premises which in turn ensures the security of the records it creates and keep. The security in place is generally backed up by physical access restrictions where entry points are guarded and doors to offices are kept under key. In addition to that the cabinets holding files are lockable and those who collects files are always made to sign for the items. Electronic data is routinely backed up through the institution's ICT disaster recovery strategy. In general, there is adequate security to the premises which subsequently provides security to records as they are kept in secure offices.

5.7. Factors affecting records management

The theme aimed to investigate how management support, training and infrastructure influences the records management practices at the NRWB.

5.7.1. Management support

The researcher investigates whether Management of NRWB supported records management activities or not. The findings are presented in Table 9 below in form of quotes from the participants.

Table 9. Level of management support

Support/no support	Selected quotations	Key issues isolated from the quotes
Support from management	• *Management always emphasizes on adherence to good record management practices* (Participant 1). • *Management support is available but lack of commitment by staff and also lack of guidelines to follow negatively affects compliance by staff* (Participant 3). • *Funding is playing an encouraging role as the facilities required are available. The department has all the necessary tools for record management. The support available is through the funding but the guidance and checking are not there* (Participant 4). • *Management regularly follows up in order to facilitate good records keeping but there are some challenges in getting all the necessary tools for keeping paper-based records.* (Participant 5). • *Management provides resources that facilitate the records keeping including providing hardware for electronic records* (Participant 7).	• Management provides funding. • Lack of guidance on acquiring required tools for paper-based records.
Lack of support from management	• *Management has not given much support* (Participant 2). • *Funding in setting up a proper archiving facility has been inadequate* (Participant 6). • *There are inadequate facilities to properly keep all the records that are created. Funding could be available but effort to get all necessary tools may not have been made. Not aware of any*	• Funding not enough to meet all records management activities. • Lack of adequate efforts in getting required tools.

	management effort to enforce compliance. (Participant 8).	

The study reveals that funding may be available but the lack of adequate attention to records management practices may be contributing to some departments or sections having all the required facilities while others do not.

5.7.2. Level of training in records management

In this theme, the researcher asked participants about their level of skills in managing records. The findings are presented in Table 10 below.

Table 10. Levels of trainings and skills

Level of training/skills	Selected quotes	Key themes
Have adequate skills	• *I have attended some basic records management trainings* (Participant 2). • *Many qualified people have been employed in record keeping especially in the registry. Some have undergone refresher courses on record keeping* (Participant 6). • *Registry staff are regularly sent on records management training, but not in house trainings* (Participant 7). • *… I have attended some basic records management trainings externally…* (Participant 8).	• Some staff have undergone refresher courses. • Qualified staff recruited • External trainings.
Have no adequate skills	• *There are no in house training on records management* (Participant 1). • *There are no in house training on records management* (Participant 3). • *There are no procedures on records management trainings (Participant 4).* • *There are no internal trainings on record management* (Participant 5).	• Lack of internal trainings. • Lack of procedures.

As revealed through the participants' responses, the institution does put in efforts to train the key staff in records management but the efforts may not be enough to have significant impacts across the organisation. This could be the factor which is contributing to mixed reactions on this theme.

5.7.3. Infrastructure supporting records management

The theme aimed to investigate whether departments under study had adequate facilities to support the management of records at the NRWB. There were mixed views from respondents on the adequacy of the infrastructure as presented in Table 11 below.

Table 11. Level of infrastructure for records management

Availability of facilities	Selected quotes	Key themes
Have adequate facilities	*All necessary tools are available* (Participant 2). *Funding is adequate in the sense that required facilities are available but the challenge is the absence of guidelines* (Participant 3). *The department has all the necessary tools for record management* (Participant 4). *..... in our case we are not impacted in any way since we have all the necessary facilities.* (Participant 5). *Funding is playing an encouraging role as the facilities required are available* (Participant 7).	- Adequate funding. - Adequate facilities. - Lack of guidelines.
Have no adequate facilities	*There are inadequate facilities to properly keep all the records that are created.* (Participant 1). *Funding in setting up a proper archiving facility has been inadequate.* (Participant 6). *...... effort to get all necessary tools is not there* (Participant 8).	- Inadequate funding. - Lack of effort.

5.7.4. Difficulties encountered in accessing the records.

The theme aimed to establish how easy or difficult it is to access the records that the NRWB creates in its daily operations. Respondents indicated that generally there are not out of ordinary challenges in accessing the records as explained in the following quotes:

- *There are no difficulties in accessing stored information. It takes not more than 10 to 15 minutes to retrieve paper-based information* (Participant 1).

- *There are no significant difficulties. It is very easy to access the electronic records, these are accessed at the click of a button. For the hard copies, you need search from the shelves depending the capturing dates. The newer are easier to access, the older ones take less than 30 minutes as they are always stored in order of filing date* (Participant 2).

- *When the system is up it doesn't take long to get the records from the computer. The paper-based data takes slightly longer to search for the files* (Participant 3).

- *There are no difficulties in accessing records* (Participant 4).

- *There are no difficulties in accessing the records. Since all the information is in the system, access is very easy* (Participant 5).

- *Usually with the technology available, records are accessed at the click of the button* (Participant 6).

As revealed in the quotes, records being created and stored are easily accessible to all the users who accesses the system. There are, however, some delays in accessible paper-based records because of the manual searches.

5.7.5. Institutional policies

The study revealed that there are no written policies or guidelines that govern records management at the NRWB. All respondents indicated that they are not aware of any policy on the management of records as per the quotes below:

- *There is no policy that addresses disaster recovery on records; there is no written policy on record management.* (Participant 1).

- *I am not aware of any institutional policy.* (Participant 2).

- *I am not aware of any existing policy or guidelines on records management* (Participant 3).

- *There is no institutional policy on record management …* (Participant 4).

- *I am not aware of any written policy on records management* (Participant 5).

- *I am not aware of any institutional policy in place* (Participant 6).

- *There is no policy that enforces records management* (Participant 7).

- *There is no policy that guides record management* (Participant 8).

As observed from respondents' quotes there are no written policies to guide and enforce the management of the records in the organisation. There are, however, learned procedures which are being practised in handling the records.

5.8. Conclusion

This chapter focussed on presenting the data that was collected using the tools declared in Chapter Four. The data presentation was arranged in line with the emerging themes. The next chapter (Chapter Six) discusses the major findings of Chapter Five and relates the major findings with literature on similar topics and explains the major findings using the Record Continuum model.

CHAPTER SIX: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.

6.1. Introduction

This chapter discusses the findings, provides the conclusions and recommendations. The purpose of the discussion is to explain and describe the significance of the findings of the study based on what is known about the research problem under investigation, and to explain any new understanding or insights into the problem as a result of the findings.

6.2. Discussion

The study was guided by three specific objectives as identified in Chapter One as follows: to determine records creation practices at the Northern Region Water Board; to analyse records preservation strategies at the Northern Region Water Board; and to investigate factors that affect records management at the Northern Region Water Board.

6.2.1. Records creation practices

It is important for an organizations to put much emphasis on managing its records and play a critical role in identifying and capturing its knowledge into records and maintaining them accordingly (Akuffo & Adams, 2016; Lemieux et al., 2014). The NRWB creates a variety of records in its daily operations. These records are in both paper and electronic forms. Most of the paper-based records originate from transactions involving external partners. The external partners consist of suppliers of materials used in the core mandate of the institution, which is the supply of potable water to the urban and peri-urban areas of the northern region of Malawi and customers who directly consume the water the Board supplies.

6.2.1.1. Type of records

The first group of the paper-based records are largely quotations for goods, delivery notes for the supplied goods, goods receipts and invoices. The other group of paper-based records are in form of cash receipts created when customers who consume the water the Board supplies pay for the consumption.

Most of the information from these are captured into the NRWB system using pre-defined forms. While such forms may assist employees to capture all relevant data, they also have potential to cause challenges on compliance. Unlike the electronic systems which may be set to automatically reject incomplete records, paper-based forms may be filed in an incomplete state, compromising credibility of resultant records being created (Kasumba, 2013).

The Board also creates substantial amounts of electronic records. The majority of the electronic records are usually created in the Board EPR. The ERP system captures all the Boards

transactions generated on a daily basis. The system provides data capturing screens which guide the employees on the datasets required in each specific transaction. There are also those electronic records which are sometimes captured outside the ERP. Such records consist of excel files and word documents which are used in reporting procedures. These records are created using desktop computers assigned to employees. The paper-based records, discussed above, always have a corresponding electronic record in the ERP.

These findings are consistent with a study by Yunus and Ariffin (2010) who established that generally, most of the electronic records generated by the departments in government organs of the Malaysian government are not considered records or evidence of transactions, but only data and information to facilitate the information needs and decision-making of the organization. The records created are managed and maintained as part of the organization's information management system. The results may be similar because the environments under study in both cases do not have adequate policies on records management.

The records continuum model is considered a more progressive and holistic approach in that it facilitates a proactive and holistic approach to the management of digital information, as it enables the interconnected methods for document or record creation (McKemmish & Piggott, 2013; Svard, 2013). It suits most current e-Governments which are aimed at pluralizing public information and records for use in other contexts, thereby providing a framework for the continuum of records management responsibilities. In the case of the NRWB where the paper-based records always have a corresponding electronic record in the institution's ERP system, the model's relationships between these records and their evolving and dynamic contexts, creation, management and use are in full practice (Vinet & Zhedanov, 2011).

6.2.1.2. Storage of records

The vast majority of institutions are aware that storing business records and confidential information in a safe and secure manner is an ongoing challenge (Ray, 2012). This is made more complicated with the all-too-common data breaches combined with physical storage limitations. Findings from interviews and observations indicate that the Board store manual records in lockable cabinets, named by all the eight respondents (100%), and electronic data is largely captured directly into the institution's electron ERP system with some scanty records kept in folders in desktop computers. The records in the electronic ERP system are regularly backed up by the ICT scheduled server backups but the paper-based records in cabinets are prone to disasters like floods and fire. Also, manual records can suffer degradation as a result

of fluctuations in or excessive levels of temperature and relative humidity; excessive exposure to light; air pollution; water damage; and destruction from biological agents such as insects. Observations indicate that offices where storage units are kept are well ventilated to modulate temperature, and are kept clean to repel the build-up of biological agents but some are not equipped with fire extinguishers. The lack of adequate facilities poses a serious risk to the safety of the records.

The findings are similar to the results of a study by Mampe, Galaletsang and Kalusopa (2012) at the Ministry of Health in Botswana where lockable steel cabinets were used to store records. It was observed in that study that the ministry generally did not have adequate tools to meet records storage standards as required by 1SO 154891 (Section 9.6 of 2001), which requires records to be stored on media to ensure their authenticity, reliability and availability for as long as necessary. Both Malawi and Botswana are developing countries in Sub-Saharan Africa and to some extent share similar cultural trends and similar economic challenges which may be contributing to the similarities of handing records.

In the records continuum model, records are captured as evidence of the activity that contributed to their creation. Records are captured and accessed by a group or groups of people (Anastassia Dikopoulou & Mihiotis, 2010; Yunus & Ariffin, 2010). The storing of paper-based records in cabinets in offices supports the evidentiality regarding the processes that led to their creation and simultaneously accords their accessibility to those who may need them in the course of immediate future transactions. The electronic versions of the records are an application of the models in relation to multiple contexts over space and time for the organisational records (Appiah et al., 2017).

6.2.1.3. Information sharing

A traditional or manual file system is cumbersome in that it does not allow users to easily edit files or send information to others. Paper files often cannot be edited directly, forcing users to make new copies to update old files (Brooks, 2019). As revealed in the study, to share manual records, users must move files around in offices, make copies of the records or scan the data. The sharing of paper-based records creates many risks ranging from the files getting misplaced or the records getting damaged during the handing over of the files.

Electronic records allow users to edit information directly, and because information is stored centrally in the Board's ERP system, it is already in a form that can be easily accessed or shared

to all the employees who have access to the system. The Board's ERP system also helps to avoid problems like redundant records creation and accidental data loss.

Among the primary disadvantages of a manual file environment is the time it takes to access data. It can take minutes if not hours to locate a few files in a large paper filing system (Manikas, 2015). Electronic databases allow for almost instantaneous access to information, easing information challenges. As indicated from the majority of the respondents, it takes an average of 30 minutes to retrieve paper-based records while electronic based records are accessed at the click of the button. Faster data access time can increase the productivity of managers, accountants and other employees who use data on a regular basis (Bailey & Ngwenyama, 2010). The findings indicate that the Boards ERP system, generally provides very fast access to the created records as the system is accessible across all the organisation established offices, significantly enhancing information sharing in the institution.

The findings are similar to observations from a study conducted by Marutha and Ngulube (2012) in the public health sector in the Limpopo province of South Africa where it was established that electronic management systems has capacity to improve service delivery in public institutions. The ease of access to records in electronic systems facilitates productivity and timely completion of tasks. Electronic systems generally facilitate effortless sharing of information, as compared to paper-based systems (Kasumba, 2013; Merrett et al., 2019).

The continuum approach accepts that record management practices carry records forward for multiple purposes by many people over time (Bessick, 2016; Kwon et al., 2009). This approach means that the stored record is still essentially active and possesses both evidential and historical value over time. The concept shows information sharing as a contributing factor to an ongoing intellectual process applied to the records within the organisation (Manchester & Facer, 2015).

6.2.1.4. Institutional policies

A systematic records management programme adds value to the daily functions of the staff. At the centre of any institutional records, management programme are record management policies (Jones, 2013; Ravenwood et al., 2015). These policies define what information must be kept as a record, the procedures for managing those records, their retention periods and procedures for ensuring their secure destruction (Kithome, 2012; Sataslaatten, 2014). The study indicates that there are no written policies on records management at the NRWB. Informal procedures are in place where records older than five years are sent to an established rented

archiving centre, but the procedure is not properly documented. Lack of documented procedures pose risks of the requirements being overlooked as there are no benchmarks. Continuity of the laid down procedures are also always in danger after changes in staff. The existing staff may be familiar with the procedures, but new employees will lack reference points hence routines may be disrupted putting all the records at a catastrophic risk.

A study to evaluates the records management practices in the Greek Ministries by Dikopoulou and Mihiotis (2010) established that most of the agencies had no vision statement for information and records management and the relevant policies and procedures were rare or unenforceable. While an institution like NRWB is in a developing country in Sub-Saharan Africa, lack of formal policies on records management may be common in many government institutions across the globe (Mampe, Galaletsang, & Kalusopa, 2012). Records management may not be one of the traditional priorities in most government institutions.

Embracing the Records Continuum model's prescribed factors in an institution might mitigate the challenges of long-term preservation and hence the re-use of information and enhancement of the organisational memory. Among other benefits of the Records Continuum models are enabling integrated policy making and policy implementation (Jaakonmäki et al., 2018; Phiri, 2016). The results from the study show that the NRWB is missing out on crucial benefits models like the Records Continuum accord organisational records management practices.

6.2.2. Records preservation strategies

The participants were also asked on how records are stored and preserved. The study results indicated that the Board lacked defined record preservation strategies for the effective management of records. These findings imply that the lack of preservation strategies in the Board would limit the chances of disposal of records consequently affecting the retention and disposal periods of records. The lack of preservation strategies also puts at risk the records being created which form the basis for decision making for the organisation.

Within an institutional setup, organizational memory refers to the collective ability to store and retrieve knowledge and information (Yeo, 2011). Records management processes are embedded in many institutions as a means of improving compliance with statutory and regulatory requirements as well as ensuring business continuity (Kumar et al., 2020; Mampe, Galaletsang, & Kalusopa, 2012). All of the respondents in the study attached great importance to the preservation of records to meet requirements and support organizational decision

making. Some indicated that the preserved records also assist in the induction of new employees as such records are practical references for the inexperienced employees.

6.2.2.1. Facilities for the preservation of records

Most electronic records are stored on the servers which run the NRWB's ERP system. Data on these servers is backed up routinely as per the Board's ICT disaster and recovery plan. However, there are no formal strategies on the preservation of the electronic records which are hosted on personal computers. It was noted that while there are procedures on the preservation of paper-based records in that newer ones are kept in cabinets, drawers and shelves located in the creating offices and older ones are routinely sent to rented offline storage facilities, there are no formal or written procedures or policies that govern this. It was observed that there are no formal filling standards on the paper-based records as a result it sometimes takes longer to retrieve the preserved records. While there is visible security around the perimeter to regulate access to offices, paper-based records are not adequately protected against disasters like fire and floods.

Many organisational environments present challenges and opportunities in the way records and documents are preserved. Organisations usually come up with mechanisms that assist in the management of their records and documents in line with changes in technology (Katuu, 2015). Similarly, special mechanisms can be considered in the preservation of records and documents when organisations operate in an environment where governance, audit and risk are important issues. This environment equally presents challenges and opportunities in the way records and documents are preserved. Some organisations exclude records management from the criteria for good corporate governance infrastructure. It is, however, argued that records management should be an essential function of good corporate governance (Alalwan & Weistroffer, 2012; Katuu, 2015).

In a similar study on strategies for the preservation of records in government departments at Masvingo province of Zimbabwe, Magama (2017) established that the strategies in use in those departments were compromising the long-term preservation of records. The finding of the study was that the main preservation strategies in use were backup, filing and cloud computer. The main reason for employing these strategies was lack of adequate resources due to difficult economic environment (Magama, 2017). It has been argued that backup alone cannot guarantee the perpetuity and longevity of digital records, because it provides short-term to medium-term strategy to extend the life of these resources. Similarly, cloud storage has no guarantee of

continued availability of stored data in an authentic and reliable form since data is put on servers under the control of others. Implementation of other strategies like emulation and encapsulation may provide additional advantages of reliable preservation of digital records (Kumar et al., 2020; Mampe, Galaletsang, & Kalusopa, 2012). Just like Zimbabwe, Malawi is equally among the least developed countries in the world where governments struggle to provide necessary tools and technologies to meet departments' requirements.

The records continuum model idealises the interactions of records across interrelated dimensions and axes without distinguishing where the creation, active management and archival begin and end (Mcleod & Hare, 2010; Yeo, 2011). The model emphasizes the continued reuse and accessibility of the records. Basing on the fundamentals of the model, records storage facilities are supposed to facilitate the smooth continued accessibility of the records, as such reliable storing of the records is a priority (Mampe, Galaletsang, & Kalusopa, 2012).

6.2.2.2. Security of records

In an ideal environment, only authorized persons and fully checked staff should be able to access the institution's records storage facilities. The study shows that access to the premises of the Board is watched by digital CCTV plus a fully fenced perimeter. Also entrance to the offices is controlled by a Biometric system installed in the building. As such only individuals who are registered in the Boards Biometric system and those who have keys to specific office doors can access the records stored in specific offices. In addition, all the offices where the records are kept have lockable doors and elevated shelves which may assist in protecting the records from damages which may result from water accidentally occupying the office floors.

In a similar study by Mampe, Galaletsang, and Kalusopa (2012) at Department of Corporate Services at the ministry of health in Botswana, it was established that the offices had equally a number of security measures and procedures in place. Paper-based records were secured in lockable cabinets and lockable doors to storage areas. Just like at the NRWB, electronic records were protected by user access rights through the assigning of usernames and passwords. Similarly, the risk that was observed was that not all records were properly backed up as there was no regulation on the handling of records stored on personal computers (Groenewald & Breytenbach, 2011; Kaminyoge & Chami, 2018).

The findings are in some contrast with the ideologies of the records continuum model in which records are expected to be in use for as long as they are required. Unproperly safeguarded

records, like those kept in personal computers, are at risk of not being accessed should the computers holding them suffer severe malfunctions from hardware failures. There is therefore need to establish network shared drives, which may easily be backed up, to be holding all such records and routinely being back up using the institutions ICT disaster recovery plans (Moseti, 2016).

6.2.2.3. Disaster preparedness and recovery strategies

All organisations require recovery and restoration plans for their business processes to survive any disaster (Dearborn & Meister, 2017; Frank & Yakel, 2013). Measures for protecting and recovering data critical to the reconstitution of electronic records should be integrated with arrangements for protecting the organisation's vital records. Critical data recovery planning ensures that copies of electronic datasets and their most current updates, whether in electronic form or as paper-based input documents, are available to the recovery effort (Alegbeleye & Chilaka, 2019; Phiri, 2016).

The NRWB creates a variety of records when transacting its daily business activities. The records being created are both paper and electronic forms. Paper-based records mainly involve transactions related to procurement and receiving of goods and services from external agents. The majority of the paper-based records at the NRWB are managed in the departments and sections of their creators. The paper-based records are largely stored in lockable cabinets, lockable drawers and elevated shelves located in offices which after five years are routinely transferred to an archiving centre established away from the office premises. Electronic records are created in the Boards ERP system some of which are electronic copies of the manual records with documents of interest scanned and attached to specific related electronic transactions. The ERP in use is a centralised system in which nearly all the institution's electronic transactions are captured.

The main recovery strategy is in the institution's ICT disaster recovery plan apart from the archiving centre which is rented away from the office. Under the ICT disaster recovery plan, data is routinely backed up and copies are deposited with a bank for safe keeping. There are also advanced plans for establishing a secondary site with the aim of hosting the replica of the data which is in the Board's ERP system.

The records continuum model does not differentiate active records from those ostensibly inactive records kept for a variety of purposes, like historic or disaster recovery. In particular, the records continuum model recognizes multiple participants, rights and roles in records

management and the ever-expanding web of record-related stakeholder relationships (Mcleod & Hare, 2010). The records which form part of, for instance, a secondary site is directly related to those in the primary site, hence issues applicable in the primary environment should be relevant to the secondary or disaster recovery site.

6.2.3. Factors affecting records management

A study by Johnston and Bowen (2005) reveals that people, organisations, technology and processes are interrelated contexts underlying record management issues which inevitably influence the implementation of the records management initiatives. Competency and leadership, governance structure, culture and planning, technology development and record management processes were the main factors impacting such efforts, in turn forming potential obstacles for organisations implementing such initiatives. In this study, it has been observed and indicated from the findings in the previous chapter, the factors affecting records management at the Board are management support, training, policies and the record management system.

6.2.3.1. Management support and training

The majority of participants indicated that they have the necessary tools for handling the records which are created in their daily routine duties. Observations also showed that the workplaces are well equipped with lockable filling cabinets and desktop computers, an indication that there is some meaningful funding, through management support, that is channelled towards supporting records management initiatives. However, the study also reveals that while the facilities may be available, supervision and enforcement of the practices and procedures may be lacking. The lack of enforcement may create laxity among staff leading to the procedures not being followed at all (Abdul et al., 2018; Mampe, Galaletsang, & Kalusopa, 2012).

Most participants also indicated that management regularly arranges offsite training sessions on records management for staff. According to Halim et al. (2018) managing records in the electronic environment is not only a major challenge but also increasingly a strategic issue for organisations in both the public and private sectors. It is suggested that a key factor in meeting both the challenge and addressing the strategic management is the provision of training for employees. Training on records management can be in two phases: the customised training for staff tailored to their work place and the general training covering best practices applicable to any institution (Akuffo & Adams, 2016; Chaterera, 2016). The study shows that the Board

regularly arranges offsite trainings for staff to update their skills on the management of records. However, there are no internal trainings to help the employees to customise the general skills on records management to their specific work environments. The lack of the internal trainings may create a gap in the implementation of the generally acceptable records management practices, locally.

Most organisations, including the NRWB, do provide training arrangements on records management for staff directly working on keeping records but such trainings are usually not tailored to those organisations (Appiah et al., 2017; Khayundi, 2011). The study noted that mostly staff working in the registry section of the administration department have undergone some offsite trainings. But there are mixed views on the quality of the trainings being acquired as some employees regard them as not being sufficient. Such inadequate trainings may sometimes result into staff not being effective in the course of discharging their duties. Tailored training programmes may assist in upholding integrity in trained staff as they may easily relate what has been learnt to their work environment. General offsite trainings may fail to transform the trained staff and properly equip them to apply the acquired skills to their work environments (Brooks, 2019; Jones, 2013; Katuu, 2016).

In a study to investigate factors affecting records management systems implementation in public institutions in South Africa, Kwatsha (2010) established that the success in implementing the systems largely depended on top management support and commitment. Lower level of top management support and involvement meant lower commitment from the users. The study also revealed that lack of necessary training in records management negatively affected the implementation of the systems (Alegbeleye & Chilaka, 2019; O'Flaherty, 2015).

Proper implementation of records management systems directly impacts the sound and efficient management of records. Just like what the records continuum model projects, well managed records are more likely to be used efficiently and timely each time there is need.

6.2.3.2. Organisational policies
According to Dikopoulou and Mihiotis (2012), a policy is a set of guiding principles or rules intended to influence decisions and actions that reflect on agreed practice. Record management policies affects records management systems since they provide the guidelines on how record management functions should be carried out. The study shows that there are no written policies guiding records management at the NRWB.

According to Gratha (2015) and Wamukoya (2015), lack of records management policies act as the cause of challenges facing records management in many institutions. This has greatly affected the efficiency and effectiveness of many organisations in their service delivery. According to Gratha (2015), most organisations experience major problems in the management of records which include untidiness in the record storage areas, misplacement of file, and lack of file control tools. The study also indicates other problems such as lack of retention and disposal schedules and lack of proper supervision of staff. Wamukoya (2015) indicates that there are various risks associated with the poor management of records. Lack of proper records management in organizations would lead to loss of assets, litigation risks, time wastage in retrieval of records and non-compliance risks.

Many organizations are faced by numerous challenges in managing records that include traditional records practices, the exponential growth of information, knowing what to keep, lack of adherence to disposal procedures, improper policies and procedures and unskilled personnel. To overcome these factors, organizations should do the following: extend record management practices, conduct appraisal regularly, identify records to retain, proper disposition, implementation of records management policies and training in records management (Adu, 2018).

According to Mnjama and Wamukoya (2007), most organisations in developing countries experience major challenges in the preservation of records. The challenges pointed out include lack of organizational plans in the management of records, low awareness of the importance of records management for efficiency and accountability in organizations, and lack of proper handling of records. The poor state of the management of records in many organisations is aggravated by failure by top management to establish proper records management objectives and practices; failure to hire qualified staff for the management of records and archives; lack of proper supervision in their registries; lack of training in records and archives management and failure to provide adequate storage facilities in the registries (Kootshabe, 2014).

Implementation of information technology in the management of records is another challenge facing organisations in this decade. Information technology has a great value in managing documents (Chawinga et al., 2020; Chawinga & Ngwira, 2015; Nyasulu, & Chawinga, 2018; Chawinga & Zinn, 2020; Chawinga & Zinn, 2021; Chipeta & Chawinga, 2018; Gama, Chipeta, Phiri & Chawinga, 2020; Gama, Chipeta & Chawinga, 2022) but most organizations have not fully embraced the concept due to the changes it brings and the diverse organizational culture.

Globally, countries are faced by challenges in the management of the volumes of records created on daily basis. This is evident in countries with limited finances allocated for records, and lack of skills on proper records management practices (Mosweu et al., 2017). Svard (2013) suggests application of ICT as a key solution to challenges facing the management of records. ICT would improve efficiency in retrieval and access of records, enhance security of records and provide a better interaction between users and creators of information.

The advances in technology have increased the potential of creating different types of records (Manikas, 2015; Svard, 2013). The Records Continuum model emphasizes the continual use and re-use of records. For an organisation to achieve efficient and continued access to the records it generates, there is need for policies guiding the overall handling of the records to ensure their continued access and usability (Ravenwood et al., 2015).

6.2.3.3. Institutional records centre

Electronic records management (ERM) is the management of electronic files and documents as records. The key difference between ERM and the traditional records management of physical records is the focus. ERM captures records as part of a digital business process (Jaakonmäki et al., 2018; Lemieux et al., 2014). All printed copies of records have the original electronic file sitting on a computer or server somewhere. It was indicated that most of the records are captured into the Boards electronic ERP system, due to some requirements printed copies are made, for instance, where formalised requests for goods and services are to be sent to external suppliers and agents who do not have access to the Boards internal electronic systems. But largely, all business records are captured and stored electronically in the Board's ERP.

Centralised ERPs facilitate smooth sharing of information (Cöster et al., 2014; Dikopoulou & Mihiotis, 2010). The Board's ERP is accessible across all its established transacting offices. This assists the staff in various departments to have the information they need very easily, increasing their productive time as they spend less time searching for the information that they may require in accomplishing their routine tasks.

6.2.4. Summary

- NRWB had not fully embraced the concept of records management. The management of records in the institution had not been acknowledged as a key resource in achieving goals and objectives of the organisation.

- The institution did not have records management policies in place to govern management of records. A records management policy should have been designed and implemented to guide employees in effective records management practices.

- Finally, the study concluded that the NRWB had gaps in the implementation of records management systems. The gaps are mainly as a result of lack of policies which would guide both staff and management on the effective implementation of records management systems.

6.3. Conclusion

This chapter presented the findings from the interviews that were done with the participants in their workplace. It also presented the findings which were captured in the observations conducted in the employees' work places. The chapter also has discussed the findings of the study in relation to the themes that were derived from the research questions. The general observation is that the NRWB operates a hybrid records management system where paper-based and electronic records form the routine transactions. The study highlights that there is a general lack of policies to govern the records management system in place at the Northern Region Water Board. Participants' responses have indicated that the paper-based records are particularly at the risk in the institution as there are no clearly defined preservation strategies for them. In general, the Board lacks formal guidelines in the overall management of records that it creates and manages. However, most internal records are electronic and are therefore captured in the Boards centralized electronic ERP system.

6.4. Recommendations

Based on the findings of the study, the following recommendations were arrived at to address challenges affecting the management of records at NRWB.

- Proper records management enhances service delivery in organizations. NRWB management should put more emphasis on the management of records and include initiatives or activities, like routine inclusion of records storage facilities and strategies on records management, that promote record management practices in their annual budgets and overall organisational strategic plan. The results showed that in some departments there was inadequate availability of necessary tools to properly manage the records being created in routines business activities.

- Records management trainings should be provided to all staff since some of the records being created are managed in individual departments or sections. Customised trainings should be provided to staff so they can appropriately apply the general knowledge on records management to their environments. Most respondents indicated that there were no in house trainings provided to staff in the institution, a condition which may jeopardize the quality of records being created.

- The NRWB should formulate records management policies to guide the officers in the management of records. There should be an established policy that guide the creation of the records and their subsequent storage, which spells filing standards. The study observed that most respondents were not aware of existence of policies on records management. The absence of formal policies has the potential of creating an inconsistent records management practices in the institution.

- The NRWB should explore digitization of records to avoid accumulation of large volumes of paper-based records which are usually at risk to disasters like fire and floods. The study observed that many departments were relying on cabinets and shelves to store paper-based records. Shelves are more likely to offer very little safety to the records against fire.

- Records management has recently changed in response to advancements in technology hence the need to fully migrate from manual records to automated systems. NRWB has made significant strides in automating internal transactions. However, there is need to implement a clear strategy on preservation of manual records which involve inevitable transactions with third parties, a strategy like document scanning.

- The NRWB should work closely with the Malawi National Archives centre in the disposal of records in the institution. This will ensure records disposal schedules are properly integrated in the institution routines. While most respondents and observations there is an external facility that is used to keep records that are five years and older, no formal documentation was available that clearly defines the archiving of records.

6.5. Suggestions for Further Research

Since the study was focused only on NRWB, future studies can consider expanding the scope by including the other similar public institutions in Malawi. Studies can also be focused on the education, training and recruitment, processes of records, and management staff. The study

would guide employees in the public institutions to fill the gap being experienced so as to enhance service delivery. Secondly, such future studies would help service delivery by having enough and qualified records management staff. Other studies would consider establishment of standardized records management policies in public institutions in Malawi, which would help the institutions come up with localized records management policies to guide the records management practices in the individual institutions. Studies can also be considered on the disaster preparedness programmes in public institutions in Malawi.

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8.0. Appendices

Appendix 1: Interview guide

1.   What kind type of records do you capture in your routine duties in your section?

2.   How is the information you capture or receive in your routine duties stored?

   a. Do you remain with a copy of the records in your office?

   b. How is the electronic data stored?

   c. How is paper based data stored?

3.   How is the data that is captured in your routine duties made available to your team members?

   a. How does other departments or sections access the captured data?

4.   How long does it take you to get records or files requested for?

   a. Do you think there are some difficulties in accessing stored records?

5.   Are there any institutional guidelines that are followed in capturing data or information?

6.   In your opinion why do you think it is necessary for the board to preserve records it creates or receives?

7.   Could you explain records storage facilities available in your department or section?

   a. Which storage facilities keep electronic data?

   b. Which storage facilities keep paper-based data?

8.   What security measures do you follow in protecting records from:

   a. Unauthorized access

   b. Accidental loss or destruction

   c. Deterioration

   d. What institutional security measures are in place?

9.   What institutional strategies do you follow in protecting records against deterioration and destruction during disaster?

10. What institutional policy address\guide\cover aspects of records disaster preparedness and recovery?

    a. How is electronic data protected?

    b. How are records based on paper protected?

11. How is your department connected to institutional records management system?

12. How does your department manage electronic records through the institutional electronic records management system?

13. How does your department ensure that stored records are easily accessed and retrieved if required?

    a. How are electronic records handled?

    b. How are records on paper handled?

14. Which guidelines does your section follow in archiving records?

15. Does your department keep all records it produces or it sends to an institutional records center that is responsible for keeping\preserving all institutional records?

16. To which extent do the following motivate or hinder records management practices in your department:

    a.   Funding

    b.   Qualified staff to manage records

    c.   Written Institutional policy

17. Have procedures and guidelines been established to underpin the records management policy for compliance by staff:

    a. on in house training in records management

    b. on records management creation, preservation infrastructure

    c. on centralized records management center

    d. on Management support

Appendix 2: Observation guide

1. How many people handle the records in the records centre?

2. How are records created and moved to the records storage?

3. Method of filing systems

   a)   Alphabetic b) Alphanumeric c) Numeric

4. Storage equipment

   a)   File cabinets b) Open shelf unit c) Box files

5. How secure are the equipments housing records in the departments.

   a)   Has ventilators b) Proper windows c) Air conditioners

6. What are the security measures that are in place?

   a) Surveillance cameras b) Fire extinguishers c) Strict rules and regulations

   d) Locking doors with padlocks e) Fire alarm

Appendix 3: Mzunirec Consent form

Mzuzu University Research Ethics Committee (MZUNIREC) Informed Consent Form for Research on Records management practices at the Northern Region Water Board.

Introduction

I am Welani Msosa from Mzuzu University. We are doing research on Records management practices at the Northern Region Water Board. This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me or of another researcher.

Purpose of the research

This research aims to investigate records management practices at Northern Region Water Board in Malawi.

Type of Research Intervention

This research will involve your participation in an individual interview.

Participant Selection

You are being invited to take part in this research because you are an employee at the Northern Region Water Board.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate nothing will change. You may skip any question and move on to the next question.

Duration

The research takes place for a period of three and a half months.

Risks

You do not have to answer any question or take part in the discussion/interview/survey if you feel the question(s) are too personal or if talking about them makes you uncomfortable.)

Reimbursements

You will not be provided any incentive to take part in the research.

Sharing the Results

The knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. Thereafter, we will publish the results so other interested people may learn from the research.

Who to Contact:

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact: Dr. Winner Chawinga, Department of Information Science, Mzuzu University, Private Bag 201 or on Cell phone number (265) 993509295.

This proposal has been reviewed and approved by Mzuzu University Research Ethics Committee (MZUNIREC) which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the Committee, contact Mr. Gift Mbwele, Mzuzu University Research Ethics (MZUNIREC) Administrator, Mzuzu University, P/Bag 201, Luwinga, Mzuzu 2, Phone: 0999404008/0888641486

Do you have any questions?

Part II: Certificate of Consent

I have been invited to participate in research about Records management practices at the Northern Region Water Board. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant_____

Signature of Participant _____

Date _____
           Day/month/year

If illiterate **1**

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____   Thumb print of participant

Signature of witness   _____

Date _____
           Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability I made sure that the participant understands the research project. I confirm the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent_____

Date _____
           Day/month/year

Appendix 4: Linguistic care letter

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1 **A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.**

CENTRE FOR OPEN, DISTANCE AND E-LEARNING

To   To Whom It May Concern

From   Karonga Satellite Centre Manager

Date   29th September, 2021

<u>**Subject**</u>   **Proof-reading of Mr Welani H, Msosa's MLIS Thesis**

I write to inform you that Mr Welani Humphrey Msosa, MUS Student in Faculty of Humanities and Social Sciences approached me to offer him some editing services of his MLIS Thesis.

I hereby ascertain that I have gone through the document entitled **"Records management practices at the Northern Region Water Board, Malawi"** and, where necessary, I have made changes in punctuation marks, spellings, tense, and diction in line with the flow of the arguments.

I hold a Master of Arts in Literature (UNIMA) and Master of Arts in English (UNISA) that have equipped me with the relevant skills in editing documents written in English Language.

Should there be any queries regarding the services rendered, I hereby provide contact details for easy communication on the same

Sincerely yours,

Albert Mtungambera Harawa

Email: alloyds66@gmail.com

MA in Literature (UNIMA)

MA in English (UNISA)

Appendix 5: Letter from the gatekeeper (NRWB)

NORTHERN REGION WATER BOARD

Our Ref: NRWB/ADMIN/TRAINING

Your Ref:

Head Office
Kawiluwilu House
Bloemwater Street
MZUZU
Malawi

Private Bag 94, Mzuzu
Tel: +265 1 310 254 / 255
Fax: +265 1 310 082
E-mail: kawiluwilu@nrwb.org.mw
Website: www.nrwb.org.mw

18ᵗʰ December, 2020

Welani Msosa
Mzuzu University
Private 201
Luwinga
MZUZU

Dear Sir

RE: PERMISSION TO CONDUCT A RESEARCH WITHIN THE NORTHERN REGION WATER BOARD.

Your earlier request to conduct a study within the Northern Region Water Board titled "**Records management practices at the Northern Region Water Board**" refers.

I am pleased to grant you permission to carry out the study subject to the following conditions:

1. Participants will be adequately informed about the purpose of your study and their personal involvement in the study.
2. Consent of participants will be sought before their participation in the study. The participants will have the freedom to withdraw from the study at any stage.
3. Participants will be assured of confidentiality, like their identity and views.

Should you need further clarification, kindly contact the undersigned.

Wishing you all the best in your study.

Yours faithfully,

Maria Ndhlozi
Ag HUMAN RESOURCE AND ADMINISTRATION MANAGER

Appendix 6: Mzunirec approval letter

MZUZU UNIVERSITY

DIRECTORATE OF RESEARCH

MZUZU UNIVERSITY RESEARCH ETHICS COMMITTEE (MZUNIREC)

Ref No: MZUNIREC/DOR/20/09   24th Nov, 2020.

Mr. Welani Msosa,
Mzuzu University,
P/Bag 201,
Luwinga,
Mzuzu 2.

Email:
welanimsosa@gmail.com

Dear Mr. Welani Msosa,

RESEARCH ETHICS AND REGULATORY APPROVAL AND PERMIT FOR PROTOCOL REF NO: MZUNIREC/DOR/20/09: RECORDS MANAGEMENT PRACTICES AT THE NORTHERN REGION WATER BOARD, MALAWI.

Having satisfied all the relevant ethical and regulatory requirements, I am pleased to inform you that the above referred research protocol has officially been approved. You are now permitted to proceed with its implementation. Should there be any amendments to the approved protocol in the course of implementing it, you shall be required to seek approval of such amendments before implementation of the same.

This approval is valid for one year from the date of issuance of this approval. If the study goes beyond one year, an annual approval for continuation shall be required to be sought from the Mzuzu University Research Ethics Committee (MZUNIREC) in a format that is available at the Secretariat. Once the study is finalised, you are required to furnish the Committee with a final report of the study. The Committee reserves the right to carry out compliance inspection of this approved protocol at any time as may be deemed by it. As such, you are expected to properly maintain all study documents including consent forms.

Wishing you a successful implementation of your study.
Committee Address:
Secretariat, Mzuzu University Research Ethics Committee, P/Bag 201, Luwinga, Mzuzu 2; E-mail address: mzunirec@mzuni.ac.mw