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# Management of electronic records in the South African public sector

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## Abstract

Many public sector organisations are struggling to properly manage their electronic records. The effective management of such records and their accessibility is crucial for the functioning of the public sector and provides citizens with evidence of that functioning. Recently, numerous public sector organisations have adopted newly developed technological tools to manage records, while some departments are still in the process of gradually introducing these. Electronic records are created through various information systems in government organisations but for them to be of full advantage in the realm of governance, they need to be carefully managed. Public sector organisations are positioning themselves to do just that by applying innovative mechanisms to deal with their records. An electronic records management system is expected to provide an integrated, efficient management of the records produced and stored in contemporary organisations. However, it is not a silver bullet to fix all issues, and proper management of electronic records continues to be a challenge due to a lack of sufficient skills, relevant policies, procedures, and standards, as well as a lack of knowledge in South Africa on how to utilise modern technologies to deal with the storage of public records. The present study aimed to identify challenges related to the management of electronic records in the South African public sector and to suggest strategies for resolving them. The study was based on a qualitative approach and applied the content analysis of relevant literature to identify gaps and suggest solutions. The study established that the government departments under investigation still lacked the requisite tools such as policies, standards, guidelines, adequate technological infrastructure, and that there was also a lack of sufficient funding and skills and competencies to effectively deal with electronic records. Hence, the study recommends more collaborative efforts to urgently address shortcomings to curb the continuous loss of invaluable electronic records that could ensure accountability, transparency, informed decision-making, and improved service delivery.

**Keywords:** records, electronic records, technological tools, public-sector organizations, South Africa

## Introduction

Governments worldwide are adopting information and communication technologies (ICTs) to facilitate prompt service provision through what is referred to as e-government (Moahi,

Rathapo and Sebina 2017). The implementation of ICTs has fundamentally altered the way in which business is done and revolutionised record keeping. Keakopa (2009:79) indicates that, while the growing use of ICTs in government operations has led to an increase in electronic records and, in some ways, eased the work of archivists and records managers, depending on ICTs, it has at the same time created problems. With the advent of digital technologies, electronic records are becoming a necessity for public sector organisations. However, as digital technologies become more sophisticated, they are likely to trigger more and more changes, challenging the way organisations practise and fulfil their mandates (Masenya and Ngulube, 2019:1). Kemoni (2009:192) poignantly notes that the status of electronic records management is a subject of discussion among record-keeping professionals and scholars. The management of electronic records is acknowledged as problematic by both government and records management professionals. For instance, Moloi and Mutula (2007:293) observe that most countries in Africa are lagging in the use of ICTs and the management of electronic records. Because many African governments have, for a very long time, largely operated in a paper-based environment, the process of changing from paper to electronic systems is bound to be complex (Mnjama and Wamukoya, 2007:280).

Wato (2006:69) correctly states that managing electronic records is one area that has always confronted records managers with difficulties, especially in the developing countries, because factors such as their creation, use and preservation require the acquisition of costly hardware and software. In addition, records managers may be required to participate in (re-)training in the use of ICTs to become conversant with the management of e-records and with their preservation, which is determined by storage media that are quickly becoming obsolete, while the local training institutions for archivists and records managers may be short of qualified teaching staff for e-records management. Lipchak and McDonald (2003:1) posit that countries where resources are scarce, records management systems are weak and electronic records management software is unavailable, are the countries that experience the most challenges of managing electronic records. For instance, Kemoni (2009) indicates that most countries in the Eastern and Southern Africa Regional Branch of the International Council of Archives (ESARBICA) region face challenges in the management of e-records which relate to the absence of policies and legislation, standardisation, authenticity, capacity building, physical infrastructure, and awareness of record management issues among record-keeping professionals and government authorities (Newa and Mwantimwa 2019:121).

Kimberly, Kutzner and Wamukoya (2001:34) found out that many countries in sub-Saharan Africa lacked the capacity to manage electronic records. Furthermore, Kimberly et al. (2001:34) note that, with the shift from paper to digital information, the state of electronic records in most countries in sub-Saharan Africa will not be of a high enough standard to support the evidential needs of government business functions. This is also true for the South African public sector. Maulid (2015) mentions that among the factors influencing effective management of electronic records are an unreliable power supply, a shortage of ICT facilities and a lack of technical support. The situation is worsened by the inadequacy of experts and funds, poor internet connectivity, poor legal frameworks, and the absence of relevant policies. These disadvantages underscore the challenges experienced by most African public sector organisations when it comes to dealing with electronic records, despite efforts that have been made to promote more effective electronic records management.

Kwatsha (2010) notes that the technological challenges of managing digital records in the global South have been the subject of several research projects since the late 1990s and throughout the 2000s. Furthermore, Keakopa (2008) and Kemoni (2009) argue that South

Africa is the most advanced African country when it comes to the use of software applications to manage electronic records. Mnjama and Wamukoya (2007) make the interesting point that, while many governments have systems and procedures for managing paper-based records, the same cannot be said for electronic records. One reason why government departments are slow to implement e-records management and e-government) is that the national archival systems in South Africa are plagued by poor infrastructure and a lack of sufficiently skilled staff to prepare digital records for permanent preservation (Ngoepe, 2017:35 cited in the Archival Platform, 2015:102; Harris, 2000:16; Ngoepe and Keakopa, 2011:148), Kamatula, 2018).

Given the lack of infrastructure for the management of digital records in South Africa, most government entities have not transferred any digital records to the National Archives of South Africa (NARSSA) but keep records in their own possession (Ngoepe and Keakopa, 2011). This means that it is left to the agencies that have produced the records to manage and preserve them, even though these agencies may lack the necessary infrastructure as well as the knowledge and skills to preserve digital records in the long term (Katu and Ngoepe, 2015:136). Failure to address the challenges of managing and preserving digital records resulted in the government losing them. Therefore, Harris (2007:107) laments the disappearance of valuable digital records in South Africa.

### **Statement of the problem**

Currently, most government departments in South Africa have joined the trend to adopt technological developments and are moving towards the use of ICTs to drive their activities, promote accountability and transparency and improve service delivery. Chikomba, Rodrigues and Ngoepe (2020:246) state that embracing ICTs in the conduct of official business has led to the increased production of digital records. Government departments are predominantly creating electronic records as evidence of their business conduct (Ngulube, 2007:161). The growing number of electronic records produced in government departments leads to serious concerns about their management and long-term preservation (ICA, 2005). The management of electronic records brings a different set of issues into play, requiring a paradigm shift from the usual management of physical storage media to the management of the processability of records over time (Archival Platform, 2014:101). Kimberly, Cain and Routledge (2001) mention that electronic records pose immense challenges, as they are entirely dependent on technology, both for their creation and their storage and, as a result, they need to be dealt with over time in a computerised environment.

Over the past years, South Africa has made advancements in the management of its public records throughout government departments. However, the loss of records is today still reported among critical challenges in the governmental realm. Ndenje-Sichalwe (2010) indicates that records in many public organisations are unfavourably and poorly managed, resulting in poor public services operations and inefficiency. Public sectors experience severe problems in the management of records, while records are among the most vital assets of organisations. Various studies accentuated the unsatisfactory management of public sector records. In view of the continuing development of technology, challenges experienced in the management of electronic records may be expected to persist and even grow. To keep up with advancing technology, records managers have to come up with new solutions to meet immediate and future needs of dealing with electronic records. As South Africa is a developing country and in the process of undertaking the computerisation of essential records management services, it will have to respond to the challenges (Keakopa, 2007:40). “The

failure to manage electronic records for long-term access and the consequent loss of information represents the biggest single threat to government efficiency, accountability, and institutional and social memory” (Archival Platform, 2014:102).

## **Purpose and objectives of the study**

This study sought to investigate the dynamics of issues hindering the effective and efficient management of electronic records in the South African public sector. The objectives of this study were:

- To identify challenges impeding the management of electronic records in the government organisations of South Africa
- To suggest strategies for the improved management of electronic records in the government departments of South Africa

## **Literature**

The effectiveness of electronic records management is considered an integral part of efforts to successfully implement e-government (Kamatula, 2018). Mukred et al. (2019) point out that electronic records management can improve the efficiency of government operations, increase transparency and, hence, accountability in decision-making, enhancing the delivery of efficient and cost-effective public services to the citizens. Proper electronic records management ensures that accountability is upheld by guaranteeing not only that evidence for every public sector activity is not only available, but also accessible to citizens (Ambira, 2016). In the same vein, Ndenje-Sichalwe and Ngulube (2009) posit that records management fosters good governance and the protection of human rights. Generally, effective management of records of different types plays an important role in supporting the accessibility of data and information for decision-making.

Ngoepe (2008) considers an effective records management programme as a major element in, and fundamental to, good governance, effective and efficient administration of any public sector organization. “It forms the basis for formulating policies, managing resources and ensuring service delivery” (Matlala and Maphoto, 2020:81). Thurston (2015) remarks that enhanced information governance is increasingly contributing to openness, transparency, and self-determination. Undeniably, a good electronic records management system is needed to avoid issues that might threaten operations. In addition, electronic records management systems serve as data repositories, enable easy access and the timely delivery of data, minimise the use of paper, reduce the demand for storage space and ensure the easy sharing of information (Mukred and Yusof, 2015).

Responding to the importance of electronic records and the need for their good management, the International Organization for Standardisation Organization (ISO) released a records management standard ISO 15489 in 2001, updated in 2016. The standard is used to guide the management of records in all formats and media. It provides the methodology and processes that form a basis for the best practices in records management. Areas covered in the standard include policies and responsibilities, strategies, design and the implementation of records systems, procedures, and control as well as records monitoring and auditing. The main strength of the standard is its applicability in a variety of environments (Keakopa, 2007:32). The fact that electronic systems are increasingly used by government departments to carry out their business operations has significantly transformed the way in which records are created and kept. Electronic recordkeeping means that government departments need to

ensure the quality of reliable records over time as evidence of official activities. The records have to reflect governmental accountability and enable operational continuity and disaster recovery, while supporting institutional and social memory. When paper-based records are produced, a well-structured file plan has to be maintained and the records must be protected physically, so that the evidence they contain remains accessible and readable over time. However, such well-structured plans to fulfil the same requirements in the case of electronic records are not yet generally available (Archival Platform, 2014:101).

Despite the slow take-off of electronic records management initiatives in South Africa, the proper management of electronic records is recognised as a positive contribution to the growth of organisations and the development of the nation at large. Government departments have to treat the management of electronic records as part of a formal records management policy (Archival Platform, 2014:101). Similarly, literature supports the view that effective management of electronic records ensures that the information needed to make decisions is promptly accessible (Mukred et al., 2019). Ndenje-Sichalwe and Ngulube (2009) point out that the ability to share records electronically has several advantages, for instance, successfully settling inter-departmental queries and reducing the time and physical effort spent on communication and movement between departments. In addition, with the help of networks, e-records can be accessed by more persons at the same time, improving transparency and accountability in public sector organisations (Ndenje-Sichalwe and Ngulube, 2009).

While 21<sup>st</sup> century recordkeeping is primarily digital in nature, records managers and government departments generally remain focused on paper-based realities. The surge of ICTs in the public sector organisations of South Africa has undoubtedly increased knowledge levels of the available technology but it also presented challenges that are particularly apparent in the management of electronic records. Despite these challenges, government departments are embracing ICTs and working towards e-government. Lemieux (2016:5) observes that the development in the use of ICTs through e-government is primarily aimed at improving public service delivery and governance accountability.

In this context, the International Records Management Trust (IRMT) (2011) remarks that without proper electronic records management, information necessary for decision-making and promoting accountability will lack evidential and reliability qualities and be difficult to retrieve over time. As a result, a government's performance and effectiveness will be negatively affected. After all, it is through records that top management can make informed decisions and are assisted in the provision of satisfactory services. Ngoepe and Keakopa (2011) note that the establishment of digital records presented the management of records with further challenges. Similarly, Lemieux (2016:7) points to the mounting evidence that the widespread use of ICTs by government agencies aggravates the management of records which was already weak in a paper environment.

Asogwa (2012:203) emphasises that many organisations are jumping onto the ICT bandwagon without integrating good recordkeeping strategies. Challenges cited include the non-existence of, or non-adherence to, records management standards and a lack of adequate infrastructure and skilled manpower. These issues compromise the integrity, reliability, authenticity, and usability of digital records. Related studies also indicated that national archives have not been very active by advocating for the need of an environment that ensures the proper management of digital records in the public sector. Numerous scholars and academics, among these Ngoepe and Saurombe (2016), Nengomasha (2013:5), Marutha and

Ngulube (2012:47), Ngoepe and Keakopa (2011), Kemoni (2009:192), Keakopa (2009:80), Keakopa (2008), and Mnjama and Wamukoya (2007), accentuate various problems related to the management of electronic records in the ESARBICA region, to which South Africa belongs. The problems include unstable digital media that quickly become obsolete, the dependence on digital technology for record creation and storage, which means that they are managed in a computerised environment disadvantaged by the earlier mentioned lack of relevant competencies as well as inadequate infrastructure.

Schellnack-Kelly (2013:216) describes the problems experienced in South Africa's public sector record management milieu as evident throughout the entire life cycle of the information resources, from their creation to their disposition. In government departments, record managers are expected to understand complex legislation and observe good governance. Besides, they are also required to navigate through uncharted waters, with little support either from the parenting body or from national and provincial archivists (Schellnack-Kelly, 2016:216). Maphoto and Matlala (2021:548) noted that the management of information in the government departments of South Africa is engulfed and inundated with a massive of challenges and these include lack of proper skills; lack of funding; poor infrastructure, weak technological resources; lack of policy direction.

## **Methodology**

This study adopts a qualitative research approach with an interpretivist design of systematic review, focusing on exploring government departments as case studies across South Africa. This research design and approach extracted data from public documents, for example, official documents and the policy documents, and case studies (Akerlof et al, 2013). Gough, Oliver and Thomas (2012) note that this research design identifies, describes, appraises and synthesises available research literature 'using systematic and explicit accountable methods. Mosweu and Rakemane (2020:105) cited Bengtsson (2016:8) who noted that "no matter what chosen method, the process of analysis reduces the volume of text collected, identifies and groups categories together and seeks some understanding of it." Data was collected from secondary sources such as journal articles, theses and conference papers and case study. A literature search conducted online using the Scopus database and Google Scholar. The search terms included records management in government, digital records management, good governance, public sector organization and service delivery, corruption, transparency, and South Africa as evidential documents for this systematic review study.

For sampling and procedures, the non-probability also known as purposive sampling used to restrict documents from 1990-2000 [Not in order of importance nor sequence]. Furthermore, content analysis was used to analyse consulted textual materials and to collect as well as classify relevant information on this subject. Content analysis "is a technique which aims at describing, with optimum objectivity, precision, and generality, what is said on a given subject in a given place at a given time" (Lasswell, Lerner and de Sola Pool, 1952:34). Additionally, content analysis is any research technique for making inferences by systematically and objectively identifying specified characteristics within text. Therefore, Leedy and Ormrod (2001) define content analysis as a detailed and systematic examination of the contents of a particular body of materials for the purpose of identifying patterns, themes, or biases. Referring to content analysis, numerous studies in the context of South Africa used content analysis successfully in their investigations (Mosweu and Rakemane, 2020; Maphoto and Matlala, 2021; Tintswalo et al, 2022; and Matlala, Ncube and Parbanath, 2022). Rakemane and Mosweu (2020) point out that several studies in the library and information

science discipline have applied and used content analysis as a data collection method in their studies. It is in view of the aforementioned that this study adopted content analysis to explore the dynamics and issues experienced by South African public sector organisations in the management of electronic records.

## **Results of the study**

### **Challenges in the management of electronic records by public sector organisations in South Africa**

The management of electronic records in the public sector of South Africa is faced with a plethora of challenges, which include a lack of skills and competencies, resulting in the unavailability of trained staff with experience in the management of electronic records. Other problems are presented by poor technological infrastructure and underdeveloped ICT infrastructure, as well as the lack of relevant policies, standards, and procedures to regulate the creation, storage, preservation and retrieval of electronic records. The situation is further compounded by a lack of collaborative efforts and partnerships, a shortage of funding, the absence of satisfactory information technology training and the inadequacy of existing records and archives legislation.

#### **Lack of skills and competencies**

When organisations make decisions on the provision of human resources, their lowest priority is the need for a well-staffed records management programme. Wamukoya and Mutula (2005:71) argue that effective electronic record management has the potential to improve service delivery and enhance government accountability, but only if skills needs are met. Marutha (2011:47) adds that many staff managing electronic records are not capable of doing so professionally. Electronic record management requires special competencies at various levels involving the creation, classification, appraisal, disposal, and preservation of e-records (Wamukoya and Mutula, 2005:74).

Wamukoya and Mutula (2005) comment that in the ESARBICA region of which South Africa is part, the need for staff competencies, skills and tools needed to manage electronic records, has not received adequate attention. They add that, at policy level, senior officials and legislators are often unaware of what is required for dealing with electronic records over time in such a way as to secure that the evidence base of the organisation is secure and accessible when needed by authorised users. The lack of the required skills was called a teething problem, as the African continent attempts to master the concept of electronic records management (Adu, 2015:74). Kamatula (2010) in turn accentuates that records managers and archivists in sub-Saharan Africa are insufficiently prepared to handle electronic records in the public sector.

Ngulube and Tafor (2006) comment that the scarcity of skills in managing records has partly impacted the weak management of paper records and doubt whether government departments would be able to handle the additional challenges posed by electronic records. Chikomba (2018:49) noted that, in most cases, public-sector organisations do not professionalise records management and employ incompetent personnel, ignoring the fact that it is through the availability of records that decisions are taken. Chikomba (2018:48) opines that, even if government departments manage to develop archival policies and procedures and adhere to standards, while putting in place the required infrastructure and providing resources for the management of electronic records, their success will still be incomplete if the staff entrusted



with managing records do not have the necessary skills, knowledge and experience. Harris (2007:15) adds that, as staff members in government entities are not qualified to deal with electronic records, in practice many government departments simply destroy records when they are no longer required for current needs.

According to some studies, records managers in public sector organisations are recruited from the lowest ranks of civil service, and usually have limited knowledge of electronic records management (Barata, Kutzner and Wamukoya, 2001:38). Mampe and Kalusopa (2012) posit that most records managers in organisations are inadequately skilled, even though they may have professional qualifications, whether a college certificate, diploma or degree. The problem is that they have not formal and practical training. On the other hand, even in cases where non-governmental organisations provide training for records staff, challenges in the management of records persist, possibly as a result of various issues. “There is insufficient capacity and training to articulate digital records issues and provide guidance and input to policymakers and planners” (Matlala, Ncube and Parbanath, 2022:206). It is quite clear that the management of information in the digital environment requires competent, trained and skilled professionals (Maphoto and Matlala 2021:549).

### **Poor technological infrastructure**

Although advanced ICT infrastructure does exist in South Africa, it is unevenly distributed. South Africa has much older systems and substantial physical facilities in the form of roads, buildings and telecommunications, which hitherto remained highly differentiated (Keakopa, 2007:129). Even though the country developed programmes for the management of electronic records, it appears that the South African ICT industry is not much aware of the importance of electronic recordkeeping (Keakopa, 2007:120). Chikomba (2018:48) observes that a critical key factor for successful electronic records management is the availability of adequate technological infrastructure and resources. The development of ICT policies in South Africa has been considered important as it provides the basis for the infrastructure to support the use of ICT. Policies form a strategic framework for directing and shaping the use of ICTs, as they concern decisions, guidelines, laws, regulations, and other mechanisms (Keakopa, 2007:122). In view of the specific challenges posed by electronic records, the availability of proper infrastructure and resources is a key condition as it will promote efficient management of digital records even if the technology would become obsolete. The World Bank and the IRMT (2000:14) specify that the benefits of using ICTs are only achieved if there is an appropriately supportive infrastructure. It has to include adequate provisions such as hardware and software applications to manage and protect the records generated.

As it becomes clear from the literature, most government organisations are experiencing difficulties in creating proper infrastructure and providing resources, which threatens the management of digital records (Chikomba, 2018:48). Unfortunately, the majority of government departments are producing electronic records in the absence of proper hardware and software applications, weakening the digital records management environment. There is currently little infrastructure for e-records management in government organisations. Ngulube and Tafor (2006) mention that dealing with electronic records has frustrated organisations that tend to avoid electronic media if they do not have the resources, expertise, and facilities to manage them. Luyomba (2010:56) notes that “technological implications such as the fragility of media, file deterioration, media obsolescence, and hardware and software, pose a special challenge to manage digital records.” Moloi and Mutula (2007:291) established that the management of digital records is hindered by a lack of adequate power supply and reliable telecommunication systems. Similarly, Sejane (2004) emphasises that

most organisations do not have adequate IT infrastructure such as computers, microfiche readers and scanners. It is also argued that a lack of IT infrastructure might potentially hamper records offices from fully exploiting IT resources for recordkeeping.

### **Policies, standards and procedures to regulate creation, storage, retrieval and preservation of electronic records**

Chikomba (2018:29) observes that records management policies provide organisations with guidelines, indicating what direction initiatives for creating, maintaining, using and disposing of records, in any format, must take on. Furthermore, Chikomba (2018:29) considers policies and guidelines in records management programmes as crucial frameworks for the handling of records. Similarly, Mokhtar and Yusof (2009:231) emphasise that electronic records management should follow clear, comprehensive policies to ascertain the effectiveness of management results.

Scholars such as Mokhtar and Yusof (2009:231), IRMT (2009:5) and Sejane (2004) list the following as some of the positive contributions of records management policies: their instructions on what a record needs to be in order to facilitate decisions and actions of organisations and protect them against litigation over improper use of information systems for recordkeeping purposes and their guidance in the setting up of records management standards and in the detailed development by public sector organisations of good quality and reliable recordkeeping. Policies are also expected to set out general principles on specific aspects of records management that are basic for the implementation of new records management programmes and the identification of statutory and other legal considerations in organisational records keeping. In addition, the policies serve as evidence of managers' support and investment in a compliant records management programme.

In addition, Makhura (2005:2) postulates that a records management policy allows staff members to update or familiarise themselves with the normal operations of their organisation and, as such, ignorance or absence of a policy may affect the competitive performance of any public sector organisation. At the same time, policies and guidelines direct records officers towards the application of better approaches to the management of digital records, as well as making sure that appropriate records are available for accountability processes (Keakopa, 2007:200).

The public sector organisations should, when formulating records management policies, standards and procedures also establish systems that guarantee their full implementation. Non-compliance with policies and guidelines risks derailing the records management progress of any organisation (Chikomba, 2018:30). Mnjama and Wamukoya (2007:277) state that on the African continent, the creation of electronic records resulted in numerous challenges that have never been experienced by records managers of public sector organisations previously. Mnjama and Wamukoya (2007:277) point out that the creation, use, maintenance and preservation of digital records pose difficulties that require the use of new techniques and tools that are informed by traditional information management principles and goals.

Numerous scholars such as Kamatula (2018) and Kemoni (2009) mention that the literature from earlier studies indicates that legislation, policies and regulations are often ineffective, particularly in relation to electronic records management. The unsatisfactory implementation of policies and related documents, as reported by these studies, was attributed to the lack of specific attention to electronic records and an absence of harmony between the recommended

regulations. Besides, in many government departments, policies and guidance for dealing with electronic records are non-existent and the legislative framework is weak or outdated. Various studies conducted in different public sector departments revealed that, apart from existing legislation being weak, personnel were not aware of any legislation governing the management of digital records (Chikomba, 2018:38). Nkala, Ngulube and Mangena (2012) indicate that most government departments do not have an explicit national policy for managing digital records. Despite different initiatives for making important strides in promoting e-government, government departments have not yet formulated a national digital records management policy.

The above discussion elaborates on the consensus among scholars that the absence of detailed policies, guidelines and implementation strategies compromises the quality and reliability of digital records. At the same time, Kalusopa (2011:110) argues that the mere existence of policies or guidelines is not necessarily an indication that the organisation is committed to managing its electronic records. Kalusopa (2011:110) adds that once policies and procedures have been formulated, they have to be made accessible and communicated clearly and consistently throughout organisations.

A study conducted by Marutha (2011) in the public health sector of the Limpopo province in South Africa revealed that, despite creating, receiving, and managing electronic records, most members of staff were not aware of the law that guides the management of records. The majority of participants in Marutha's (2011) study confirmed that they did not know there was a legal framework governing records management in their departments. In other words, records were not managed in line with the dictates of the law, a situation that heavily compromised their management.

### **Lack of funding**

According to Rakemane and Mosweu (2020:2), funding needed to accomplish records management activities, including supporting the management of electronic records and taking care of records and archives, is a necessity neglected in many countries in sub-Saharan Africa. The management of electronic records requires the continuous availability of funds. The relevant literature also teaches that the lack of funding is one of the main constraints experienced in electronic records management programmes. Mnjama (2002:39) is of the view that many records management programmes end up failing, due to inadequate funding. Therefore, unless adequate funding is put in place, proper digital records management programmes will not be achieved (Chikomba, 2018:48). Worse than that, the limited budget allocated to the departments represents a hurdle. It appears that budgets do not allow departments to realise planned goals such as training records personnel and the purchasing and maintenance of IT and other equipment. Hence, inadequate funding is arguably a major problem affecting the management and preservation of AV archives in sub-Saharan Africa (Rakemane and Mosweu, 2020:2).

### **Proposed improvements to managing electronic records in government departments of South Africa**

This section discusses possible strategies for improved management of electronic records, including the implementation of electronic records management policies, control of the creation and disposal of records by trained individuals, good storage conditions and migration and emulation to take care of the problems of hardware and software obsolescence, as well as the designing of reliable record-keeping systems.

### Development of skills

Most public sector staff dealing with records are not capable of managing digital records professionally and efficiently. As long as personnel responsible for managing records do not have sufficient capacity, this will remain a challenge. Marutha (2011:47) mentions that government officials have insufficient knowledge about the management of electronic records and even those who create and receive these records are uncertain about their importance. Records management has been described as a profession that is constantly evolving. This has implications for the skills and competencies involved. Training should be an ongoing activity for all staff implicated in the creation of records in one way or another (Nengomasha, 2009:108).

Records managers require core skills and competencies to build sound electronic records management strategies and must simultaneously have the ability to tactfully develop strategies to promote records management as a tool that will enhance good governance in public sector organisations. International Organisation for Standardisation (2001:17) states that:

*Organizations seeking to conform to the standard should establish an ongoing programme of records training. Programmes for training in requirements for records management and specific practices should encompass the roles and responsibilities of, and be addressed to, all members of management, employees, contractors, volunteers, and other individuals responsible for the whole or part of the business activity of an organization in making records during their work and in capturing those records into records (ISO 2001:17).*

In this context, Wamukoya and Mutula (2005) highlight competencies and skills that records managers need in the electronic records environment. Such skills and competencies are diverse but can be categorised at various levels such as records and information management skills, technology skills, managerial skills and project management skills. Other e-records management skills include, but are not limited to, skills to create, capture, classify, index, store, retrieve, track, appraise, preserve, archive and dispose of records in an electronic environment. These skills need to be complemented by knowledge of the electronic records environment, knowledge of e-records management practices and trends, knowledge of types of electronic records, including web pages, and knowledge of IT applications to records and archives management.

Thus, besides simply employing qualified personnel, there is a need for continued regular training in records management since the ever-changing technology requires records personnel to be equipped with new skills and competencies through training or retraining to be able to operate effectively in an electronic environment (Wamukoya and Mutula, 2005:73). In other words, qualifying alone does not guarantee successful electronic records management procedures. The continued training of personnel responsible for the creation, use, classification, retention, storage, and disposal of records, among other functions, is important to impart new, relevant skills to manage digital records effectively and efficiently in terms of organisationally, nationally or internationally set standards (Chikomba, 2018:49). Chinyemba and Ngulube (2005) accentuate that qualified records management personnel will ensure an organisation's records are well managed. Government departments are supposed to prioritise records management by employing qualified and skilled personnel. In other words, they are expected to professionalise records management. Mosweu (2018:68) posits that records managers and ICT specialists without the required specific competencies and skills are unable to manage records in the digital age. It is necessary to recognise that the digital age

demands a knowledgeable workforce with specific capabilities to ensure that digital information remains accessible and usable over time.

The present study calls for the proper training of records managers so that they can meet the challenges posed by the use of electronic records. In this context, Wamukoya and Mutula (2005:71) identify a dearth of skills in the management of electronic records and emphasise the “need for collaboration and partnership in the areas of education and training, continuing professional development and the establishment of centres of excellence in e-records management”. Even though efforts have been made in recent years to open training facilities in the ESARBICA region and in Africa in general, records and archival skills in many African countries remain inadequate (Matangira, 2016:82). Mazikana (2009) argues that curricula of most archival training institutions in Africa are still focused on the use of paper with very little attention given to digital records.

A positive development would be for the South African public sector to consider funding the continuous training of staff through workshops, conferences, short courses, and university programmes with an emphasis on the practical side of electronic records management. The relevant stakeholders (that is records creating agencies, academia, archivists, and the government) should get together and revise the records and archives programmes to improve the current situation. “South African government organizations should be dedicated to the constant capacitation and development of its employees and devote substantial time in identifying training and development needs” (Maphoto and Matlala 2021:551). Furthermore, they should work towards equipping tertiary institutions with the necessary materials to provide staff members with technical skills and experience in a hands-on approach to deal with electronic records at government departments. Through training and education, people need to be capacitated with skills and abilities to establish the necessary records-keeping infrastructure (Marutha, 2011:47).

### **Developing infrastructure**

Government organisations need to develop infrastructure for electronic records management by integrating e-records management facilities and procedures into e-government systems and business processes, as these are newly developed and implemented, ensuring that e-records are captured and made available for effective management in controlled records management systems as soon as these become operational. Unfortunately, the government organisations and departments creating digital records often lack the facilities to reliably store and preserve e-records over time. Due to the lack of infrastructure for the management of electronic records in South Africa, Shibambu and Ngoepe (2020:1) suggested that “government departments should cautiously consider exploring the possibility of storing their records in a trusted digital repository cloud as an interim solution.”

Ngoepe and Van der Walt (2009:10), Ngoepe and Saurombe (2016), and Ngoepe (2017) also emphasise that the South African public sector organisations lack the infrastructure to secure the ingesting of digital records into archival custody. South Africa’s archival institution left the management and preservation of digital records to so-called creating agencies (Katu and Ngoepe, 2015:136). Nkala et al. (2012) state that Zimbabwe is in a similar position and also left the practical management and preservation of digital records to creating agencies. It is clear that the absence of adequate technological infrastructure for dealing with digital records diminishes the expected benefits of e-government.

Ngoepe and Van der Walt (2009) remark that the availability of a good policy and legal framework is not very helpful if there are no staff with the capacity to implement these and no sound infrastructure to ingest the records. According to Ngulube (2012:112), digital infrastructure in the greater part of Africa is not adequate for the capturing, managing and preserving of digital records, including on social media platforms. Top management should change its perspective and begin to treat records and archives management as key to service delivery, prioritising the sector in resource allocation. The weak technological infrastructure and the resources crisis in the public sector should be a wake-up call for government organisations and enable archives and departments to come up with interim data centres to ingest digital records from public-sector departments for future use. According to Ngoepe (2017:41) “the South African government should also consider creating its private cloud for the management of public records.”

### **Policies, standards and procedures to regulate e-records**

Scholars, such as Luyombya (2010), Nengomasha (2009), Moloji (2009), Moloji and Mutula (2007) are of the view that as ICTs lead to the increased creation of digital records, organisations need to put in place the mechanisms to properly manage such records. Sound electronic records management relies foremost on a comprehensive records management policy that draws on best practices and can be adapted for almost all circumstances. It needs to address roles and responsibilities, communications, and training. The records management policy must refer to the requirements for managing records resulting from all types of business activities. It also has to acknowledge additional considerations to be taken into account when managing electronic records (Franks, 2013:31). It is, therefore, critical for governments to strive towards establishing and implementing records management legislation, policies, and procedures as part of their solutions and strategies for electronic records.

Asogwa (2012) notes that successful records management depends on establishing procedures that ensure that records are protected from being corrupted. Mnjama and Wamukoya (2007:279) add that the management of digital records must be supported by clear policies and standards aimed at retaining the evidential values of the records needed for accountable and transparent governance. Therefore, records management strategies adhere to a systematic and planned approach, covering records from their creation to the moment of disposal (Milovan, 2011:1). Keakopa (2007) examined electronic records management policy, procedures and guidelines in Namibia, Botswana and South Africa. According to his results, South Africa has electronic records management guidelines and policies in place and Keakopa (2007) recommends that South Africa should serve as a role model for other nations.

Most public sector organisations have no policy to direct and guide the management of digital records produced as a result of their activities and the use of ICT application. Again, there have been no legislative alterations to the specific support of digital records management. This compromises the quality of service rendered to citizens and clients, and government departments need to develop policies and guidelines that not only address traditional aspects of managing paper records, but also that take also the challenges posed by electronic records into account. Chikomba (2018:7) observes that failure to overcome such challenges endangers the management of records, which are critical for the day-to-day existence of any organisation. In this context, Okello-Obura (2011:3) recommends that organisations focus on introducing effective legislative frameworks.

The available literature reporting on studies of electronic records management leaves little doubt that government departments have to develop mechanisms that support effective management. Several scholars such as Nengomasha (2009), Keakopa (2007), and Ngulube and Tafor (2006) suggest that the handling of digital records can be strengthened by putting in place mechanisms such as policies providing a framework for management procedures. Mnjama and Wamukoya (2007:277) add that the level of staff commitment to the management of electronic records can be gauged by the existence or non-existence of records management policies and guidelines. This implies that the existence of a records management policy that does not embrace all forms of records, and particularly electronic records, is inadequate (Chikomba, 2018:29). All records management functions such as the creation, use and maintenance have to be subject to policy guidelines and personnel entrusted with the management of records in any format should be aware of the policies that govern their activities (Chikomba, 2018:38).

### **Funding**

Makgahlela (2021:95) pronounces funding as vital for the success of any organisational programme, including a records management programme. Lyaruu (2021:61) adds that records handled as part of a records management programme require the availability of adequate budgets to carry out all tasks involved and to finance appropriate equipment and supplies. To formulate and implement effective and efficient records and archival services, resources are essential (Lyaruu, 2021:61). Records management programmes are sometimes seen as impractical, due to limited funding. Mulauzi and Wamundila (2012:5) note that insufficient resources remain a problem for most government agencies. With many departments struggling to meet overhead costs, records management are often neglected.

Furthermore, Kemoni (2007:291) argues that without appropriate funding to undertake records management activities, one cannot expect to make any feasible changes that could lead to the improvement of current practices in the public sector dealing with records. In the same vein, Felesia, Chrispin and Mwale (2015:41) point out that records management programmes are doomed to failure without sufficient funding and other administrative support, such as staff, equipment, stationery, and procedure manuals. Ngulube and Tafor (2006:63) hold the same view, stating that without adequate resources for records management in organisations, even progressive and comprehensive legislation is not likely to improve the status of government records management in the country.

Makgahlela (2021:95) emphasises that the management of records in government organisations has been a topic of concern for some time. Records are among the most valuable assets in an organisation and, like other assets, have to be managed so as to maximise their value and minimise their cost. The public sector needs adequate funding to successfully implement records management programmes. However, as records management is not recognised as important everywhere, adequate funding is not always forthcoming. Within government departments, records management is in competition for resources with other programmes. The essential importance of funding for records management practices is also underlined by Makgahlela (2021:95).

According to Asogwa (2012:205), the underfunding of records management is partly due to the fact that sections of departments struggle to meet overhead running costs. Therefore, records managers may tend to sideline ICT-related expenses, preferring to finance other needs that that may seem to have a more direct bearing on the organisation. The costs of new purchases and of the maintenance of existing equipment are another burden for most

organisations already battling to stay within their budget allocations. Few organisations have staff with the technical expertise required for the maintenance and repair of equipment. Thus, organisations that are unable to outsource technical needs often have some of their equipment not functioning properly or stored away awaiting repair (Selinger, 2001). Additionally, literature resulting from many relevant studies confirms that the quality of records management practices in South Africa causes serious concern. A review of local literature on records management in organisations suggests that much needs to be done to advance current practices (Makgahlela, 2021:103). Asogwa (2012:205) also argues that one of the conditions for successful records management programmes is an adequate budget dedicated to staff training and human resources.

According to Asogwa (2012:205), an effective electronic records management programme depends on financial and human resources. Some records management activities with financial implications include enacting records management policies; preparing manuals; proper facilities, equipment and sufficient supplies; trained records staff to carry out all required tasks; training and support for records creators and users; developing and implementing environmental control' and monitoring, appraisal and disposition of programs (Griffin, 2004:85). In support, Matlala et al. (2022:207) note that to advance electronic records management programmes, sufficient funding and resources have to be allocated to develop strategies for integrating appropriate tools and media software into existing business operations for the creation, capture, appraisal and preservation of digital records.

## **Recommendations**

This study examined the dynamics of the management of electronic records in South African public sector organisations and identified challenges faced by e-records management in this respect. Notably, regardless of massive numbers of records being created in electronic format, a large proportion of these are still in paper format. This signifies that the records management systems that are currently used remain mostly paper based. For the public sector, records management serves as a critical component of good business governance and efficient administration. Records management facilitates better planning and decision-making and provides evidence of government accountability and transparency.

Presently, records are managed in both electronic and print format in government departments. The capacity of management to cope with ever-changing technologies is non-existent due to budgetary constrictions and a lack of staff qualified in ICTs. However, the majority of studies done in South Africa indicated that government departments are faced with challenges in electronic records management because of weak legal frameworks. Therefore, there is an urgent need to address this problem in a collaborative effort to curb the continued loss of electronic records that are invaluable for, among other things, the transparency and accountability in governance, and to promote informed decision-making and improved service delivery by government. The following are recommendations arising from the study.

- Government departments cannot tackle the challenges of managing electronic records alone. They are to a large degree dependent on the capacity and willingness of other stakeholders/sectors to set up the information and communication systems to deal with records, from the moment of their creation to their transferal to archives. In addition, government departments need to work hand in hand with IT departments to ensure that the requirements for safe management are built into the records



management systems from the outset. It is therefore, recommended that collaborative action should be taken as a viable way to respond to challenges.

- Records managers in the public sector organisations have the potential to be proficient professionals in managing electronic records. However, they need to consider adopting contemporary records management practices to effectively manage organisational records in various forms. Government departments should train and educate their staff members on the proper management of electronic records.
- Government departments should source funding from other stakeholders with vested interests in the management of electronic records.

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