Knowledge and skills requirements for a records manager in Botswana in the networked environment

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Abstract

The 21st century is synonymous with the use of sophisticated technologies such as information and communication technologies (ICTs). Their deployment to deliver public services has become a norm because they offer real-time benefits. The resultant electronic records generated through various information systems in the realm of e-government have to be managed by personnel with the right knowledge and skills. It is now appreciated by the archives and records management community that digital records management is a difficult task in comparison to paper records management. If due care is not exercised, they are easy to be tampered with, altered or even deleted. For the records to be acceptable as evidence of business transactions, they should remain available, usable, understandable and authentic for as long as they are needed by the creating organisation. The study was qualitative in nature and collected data from available literature on which content analysis was undertaken to address the research problem. It revealed that the legislative framework for digital records management is available, although it is not supported by operational guidelines to fully support the e-government agenda, specifically when it comes managing resultant digital records. It also found that archives and records management professionals are ill equipped to manage digital records. It recommends capacity building to enable them to acquire skills required to manage records in the networked environment. It also recommends collaboration between higher education institutions offering archival education to work with Botswana National Archives and Records Services to ensure that the education sector produces professionals fit for the market.

Key words: Botswana, e-government, electronic records, knowledge, skills

1. Introduction

The digital age has seen information and communication technologies (ICTs) permeating all activities in society. This greatly affected economic growth patterns, social inclusion and environmental sustainability (Economic

Commission for Latin America and the Caribbean, 2018). ICTs have vigorously enabled the fast and easy flow of goods and services, financial assets, persons, information and communication over the last few years because of economic growth. This has been apparent especially in emerging economies largely due to the mass dissemination of digital technologies and the internet (Economic Commission for Latin America and the Caribbean, 2018). ICTs are now the platforms for communication, information, entertainment, trade, education, health, government services, and more recently, complex production systems. The global economy is increasingly connected, and digitization has spread to such an extent that the world economy today is a digital economy. The digital economy has given birth to the digital society. According to UNESCO (2011:2), a digital society is, "a technological society, one in which information and communication are core concepts. Information has become a valuable economic good that one can buy, store, and sell." Digital communication has become the norm across different sectors of the economy. Due to the prevalence of the digital society, some core concepts, tools, and competences have developed (UNESCO 2011). Citizens of the digital society are required to master these concepts, tools, and competences, and must be aware of their stakes and consequences. The records manager and/or archivists are among such people.

2. Knowledge and skills requirements for records managers in the networked environment

A number of studies conducted in Africa have revealed that archives and records management professionals lack necessary skills and competencies to manage records in the networked environment (Mnjama & Wamukoya 2007; Kemoni 2009; Ngoepe & Keakopa 2011; Marutha & Ngulube 2012; Nengomasha 2013; Katuu 2015; Katuu & Ngoepe 2017; Mosweu & Ngoepe 2019). These studies were conducted in the ESARBICA countries, Botswana included. Beyond Africa, in Australia, a similar challenge is a reality. Recognising that the digital age requires a skilled and knowledgeable workforce with capabilities needed for ensuring that digital information remains accessible and usable over time, the National Archives of Australia (2015) developed a digital information and records management capability matrix for records managers and ICT specialists to enable them to cope with requirements for the management of digital records.

The advent of e-government brought the reality that African archives and records management practitioners were limited when it came to managing digital records (Mnjama & Wamukoya 2007; Kemoni 2009). With the implementation of e-government in Botswana came the increased use of information and

communication technologies to deliver services (Nkwe 2012; Mosweu, Mutshewa & Bwalya 2014). According to Segaetsho and Mnjama (2017), knowledge and skills for every profession are vital in equipping human beings with informed planning and decision-making. For Botswana alone, a host of studies has revealed lack of competencies and skills to manage records generated in the networked environment (Keakopa 2007; Moloi & Mutula 2007; Mosweu 2012; Mosweu 2014; Rakemane & Serema 2018; Moatlhodi & Kalusopa 2016; Mosweu & Ngoepe 2019). This state of affairs is attributed to inadequately qualified staff members in institutions of higher learning, shortages of locally trained professionals as educators, inadequate knowledge and training for educators in computer technologies, virtually non-existent research, poor quality of educational materials and outmoded programmes, as well as educational methodologies based on the model of rote memorization that does not encourage critical thinking, problem-solving and creativity (Aina 1994; Katuu 2009: Katuu 2015).

Lack of capacity to manage digital records has come to the fore due to the implementation e-government by the Botswana government. The government of Botswana acknowledged the potential of e-government to propel Botswana into the knowledge economy and devised the e-government strategy (Government of Botswana 2012) and masterplan with the following objectives:

- Innovate service delivery through seamless connectivity between government agencies (G2G).
- Improve access to information by reducing digital divide and improving network speed (G2C).
- Enhance competitiveness through economic diversification (G2B).
- Provide realistic and relevant technologies to support e-government programme (Government Modernization Office 2015).

Solutions for lack of skills and competencies for digital records management not only for Botswana, but also for other African, countries are needed if Africa has to keep pace with the global economy. A study by Wamukoya, Zulu and Kalusopa (2007) on existing programmes at the University of Botswana's Department of Library and Information Studies shed light on the need for restructuring and modernization of facilities and programmes to improve access to learning technologies, to incorporate varied and modernised teaching methods, and to ensure ongoing accessibility and availability of qualified educators. The International Council on Archives has also observed this weakness and through its Africa Strategy, it committed to practical training in digital records management and preservation (ICA 2015). The long-term aim is

to capacitate the training of archivists and records managers and enable universities to teach programmes that offer practical training in digital records management so that they are prepared to manage digital records (Lowry 2015; Katuu & Ngoepe 2015).

3. Purpose and objectives of the study

The main purpose of the study was to investigate the knowledge and skills requirements for a records manager in Botswana in the context in the networked environment which is dominated by the use of information and communication technologies, leading to the prevalence of digital records. The specific objectives were:

- to identify and describe national legislative and policy framework in support of Botswana's e-government agenda.
- to establish skills and knowledge requirements needed by records managers to manage records in the knowledge economy.
- to make recommendations to enable public records managers to effectively manage records in the digital environment.

4. Research methodology

This study adopted a qualitative research approach (Creswell 2014). It is principally a desktop-based research. Data was collected from secondary sources such as journals, books and document analysis of legislative instruments. A literature search was conducted online using the Scopus database and Google Scholar and the search terms and phrases included "electronic records management skills", "digital records management", "records manager skills and the digital age" and "managing records and the networked environment." Literature from both the developed and developing world was consulted with the researcher purposively choosing the one that was relevant for the study. Data was manually processed, analysed through content analysis and presented as themes derived from research objectives. Desktop research is an accepted methodology in research by the research community (Singh 1998; Khayundi 2011; Johnston 2014). Khayundi (2010) used this method to study existing records and archival programmes to the job market in South African universities involved in the training of archivists and records managers.

5. Findings and discussion

This section presents the findings of the study as informed by the research objectives, inclusive of the discussion related to the findings.

5.1 National legislative and policy framework for the e-government agenda

The Government of Botswana has put in place national policies to support its drive to make the country a knowledge-based economy. These include the National ICT Policy, commonly known as Maitlamo Policy, Vision 2036, National Development Plan 12 and the National E-Government Strategy. The policies provide a public policy framework for e-government activities and consequently propel Botswana into a knowledge-based economy. The policies are described briefly as follows:

- **National ICT Policy**: It provides a clear and compelling roadmap to drive the social, economic, cultural and political transformation through the effective use of ICTs (Government of Botswana 2007). The objectives of the policy are to be met through the seven pillars, that is, Government online (e-government); connecting Botswana; e-legislation (connectivity laws and policy); e-education (Thuto Net); E-Health Botswana; Connecting communities and ICT and economic diversification (e-agriculture, e-tourism, e-commerce).

- **E-Government Strategy**: It aims to accelerate Botswana's transition to a knowledge-based society, assuring the country's economic diversification and sustainable economic development. The government endeavors to address public service challenges through the deployment of integrated information systems. Through the Integrated Government (1Gov), information, technologies and structures, a set of seamless high-quality services for citizens, visitors, business in Botswana and beyond will be delivered to facilitate the transformation to the knowledge economy.

- **National Development Plan 12**: The plan covers a seven-year period from 2017 to 2023. ICT provides a much needed environment for the Botswana economy to prosper (Government of Botswana 2017). For example, access and ease of flow of information through modern technology will attract big companies into the country, resulting in job creation, income generation and asset base expansion. Through an

efficient electronic records management service, information for decision-making will be available at the press of a button.

- **Vision 2036**: This is a long-term plan to guide the national development agenda of the country. Amongst others, it promotes the leveraging of ICTs to drive economic growth and employment for both the private and public sectors. An enabling regulatory framework such as Electronic Records (Evidence) Act and Electronic Communications and Transactions Act and others is key in facilitating improvements in digital access.

Apart from policies, there is a legislative framework in place to support the Government of Botswana's e-government programme. Such laws include the National Archives and Records Services Act, Electronic Records (Evidence) Act and Electronic Communications and Transactions Act (Government of Botswana 1978; 2014a; 2014b). Keetshabe (2015) observes that until as recently as April 2014, no legislative framework to facilitate and enable the provision of e-services existed in Botswana, hence deliberate efforts were made to enact laws that would support the national e-government agenda.

5.1.1 National Archives and Records Services Act

The National Archives and Records Services Act establishes the Department of Botswana National Archives and Records Services (BNARS) and mandates it to manage public sector records regardless of form (Government of Botswana 1978). This Act was amended in 2007 to include records management as a function alongside archives administration as well as the extension of the meaning of a record to include electronic records. According to Lipchak and McDonald (2003), records in electronic form are becoming especially critical as developing countries embark on e-government strategies. This law was not meant to facilitate e-government but it is relevant for e-government processes because it is the legislation that governs public sector records in Botswana. Ngulube (2010) rightly avers that information management in general and records management, in particular, is a cornerstone to government information systems and effective access to information. Records generated by e-government systems need to be managed properly in order to support e-government efforts. Ngulube (2010) adds that well-managed records and information systems foster good governance and accountability. It is through records management that citizens can hold government accountable and responsive by ensuring the integrity and availability of government-held information.

It has become evident that while governments and business entities across the world adopt e-government strategies, the rapid rate of the creation and accumulation of electronic records necessitated the implementation of e-records management systems (Nengomasha 2009). However, academic commentators have noted that in its current form, the National Archives and Records Service Act lacks the grit to guide the management and preservation of records in electronic form (Ngoepe & Keakopa 2011; Moatlhodi & Kalusopa 2016). This suggests that this law does little to maximally promote the e-government programme through the proper regulation of electronic records generated in various e-government systems. Weak archival legislation to guide the management of electronic records is common in the ESARBICA region (Mutiti 2001; Nengomasha 2009).

5.1.2 Electronic Records (Evidence) Act

The Electronic Records (Evidence) Act provides for the admissibility of electronic records as evidence in legal proceedings and authentication of digital records (Government of Botswana 2014a). It also provides for the admissibility in evidence of electronic records as original records. Previously, both the Criminal Procedure and Evidence Act and the Evidence in Civil Proceedings Act provided for the admissibility of documentary evidence, but only in general terms with no specific provision for the admissibility of records produced by electronic records systems, hence this legislation.

E-government projects need to be supported by necessary legislation. The government and business entities do business with each other online and the resultant records need to be trusted as evidence of transactions in the manner accorded to their paper counterparts. It is for this reason that section 5 of the Electronic Records (Evidence) Act recognises that an electronic record obtained from an electronic records system and duly certified as such by a certifying authority in relation to the operation or management of the approved process should be held to accurately reproduce original records in the system (Ngoepe & Saurombe 2016). This piece of legislation is well placed to promote e-government transactions, including e-commerce. Similarly, the National Archives and Administration of the United States of America initiated an "E-Government Electronic Records Management Initiative" whose vision was to effectively manage and facilitate access to agency information in order to support and accelerate decision-making and ensure accountability (NARA 2005).

The goals of the project were three fold and these were to:
1) integrate electronic records management concepts and practices with comprehensive information management policies, processes and objectives to assure the integrity of electronic records and information.
2) employ ERM to support interoperability, timely and effective decision-making, and improved services to customers.
3) provide the tools for agencies to access electronic records for as long as required and to transfer permanent electronic records to NARA for preservation and future use by the government and citizens.

The purpose of the project was to ensure the adequate management of digital records to support the US e-government programme, which was highly regarded by the Presidency through its endeavour to make it simple for the citizenry to receive high-quality service from the Federal Government at a reduced cost (NARA 2015). One can safely say that the Electronic Records (Evidence) Act is necessary to support e-government efforts by the government of Botswana. This piece of legislation belongs to a select few (Data Protection Act, Electronic Communications and Transactions Act and the Cybercrimes and Computer Related Crimes Act), which have been referred to e-legislation by Keetshabe (2015) and were found to be supportive of e-government efforts.

5.1.3 Electronic Communications and Transactions Act

The Electronic Communications and Transactions (ECT) Act facilitates and regulates electronic communications and transactions (Government of Botswana 2014b). It is a piece of legislation for the realization of e-government activities such as e-commerce. Mosweu and Ngoepe (2018) aver that this law legalizes the use of electronic signatures in e-commerce transactions. It also recognises the admissibility of electronic records in legal proceedings as long as there is compliance with the provisions of the Electronic Records (Evidence) Act. With secure electronic signatures and records, the government can do business with private commercial organisations with the knowledge that its information is protected from interception by third parties. According to Botswana Communications Regulatory Authority (2015), the context under which this piece of legislation was to facilitate the prospect of electronic commerce may not be achievable without a solid enabling legal framework in line with international best practices. Doing business online is risky and there is a lack of trust and confidence of people in doing business online (Nurhayati 2006). To secure e-commerce activities the ECT Act has provisions for a certifying

authority (BOCRA in Botswana) to ensure that electronic signatures are valid and trustworthy. This in turn makes electronic records generated from e-commerce trustworthy as evidence of the said transactions. In addition, section 26 of the Act recognises the need to have secure electronic signatures, while section 29 of the Act prescribes factors necessary for reliable and secure information systems. Concisely, the enactment of the ECT Act in 2014 put in place legal means to catapult e-government efforts in Botswana with the assurance of its provision in terms of protecting its online transactions and the authenticity of resultant electronic records

5.1.4 Data Protection Act

The emergence of e-commerce has brought about many benefits to a country's economy and individuals, but the openness of the internet has given rise to misuse of personal data. Several countries have enacted legislation and procedures to protect the information privacy of their citizens and corporations (Adelola, Dawson & Batmaz 2015). In the case of Botswana, the Data Protection Act is recognised as a key piece of legislation to support the e-government drive (Keetshabe 2015). It was enacted in 2018 but is not yet operational. The purpose of the act is to regulate the protection of personal data and to ensure that the privacy of individuals is maintained. The law also establishes the Office of the Information and Data Protection Commission (Government of Botswana 2018). When government does business with commercial enterprises as in e-commerce, personal data is bound to be shared by the two parties. Section 21 of the Data Protection Act provides for the safeguarding of sensitive personal data involved in the transactions. Furthermore, if the personal data is to be provided to a third party, that can only be done with the written consent of data subject. According to Adelola et al (2015), many online businesses make use of customers' personal data to provide customized advertising, personalized services and strategic relationships with customers. Such businesses can be located beyond the borders of a country. Section 48 of the Data Protection Act of Botswana prohibits the transfer of personal data from Botswana to other countries. However, if there is necessity for the transfer of personal data to other countries, the data can be transferred if the country receiving the data ensures that there is an adequate level of protection of the data. This is provided for in section 49(1). Section 49(2) provides for the Information and Data Protection Commissioner to assess the adequacy of the protection conferred on the transferred and, in so doing, he or she considers:

- the nature of data.
- the purpose and duration of the proposed processing operation.

- the country of origin and the country of final destination.
- the professional rules and safety safeguards, which are complied with in that country.

Different countries approach data privacy and protection differently. For example, in the United States, the self-regulation approach is used, while in the United Kingdom (just like in Botswana), the government approach is used (Adelola et al 2015). Each approach can work as long as the underlying principle of data protection is achieved. The government of Botswana chose the latter approach to protect personal data in an e-commerce environment.

5.1.5 Cybercrime and Computer Related Crimes Act

The advent of e-commerce has helped international trade with minimum investment of capital, enabling organisations to easily reach out to more customers and suppliers across the globe. This has come with cyber threats to digital systems, which transmit records and information used in online transactions (Shweta, Vikas & Naveen 2016). Botswana as a country conducts its government operations using ICTs as is common in the digital age. The Cybercrime and Computer Related Crimes Act (CCRCA) was enacted to combat crimes committed with the aid of computers and through cyberspace (Government of Botswana 2007). This legislation recognises digital records, and its definition of a digital record is consistent with general definitions of digital records, for example, as in IRMT's Glossary of Terms (IRMT 2009:12-13). This legislation is very important for the creation and maintenance of authentic reliable digital records created and maintained in business information systems used to transact government business. Electronic records generated through e-government activities need to be protected from deliberate manipulation or alteration. The CCRCA outlaws obtaining unauthorized access to computer systems and data, and performing actions such as modifying or deleting it. This piece of legislation has been gazetted for amendment in order to strengthen the fight against cybercrimes and other acts committed using computerized technologies. The proposed Cybercrime and Computer Related Crimes Bill carries stiffer penalties for crimes committed when compared with the Act currently in use (Government of Botswana 2017b). This is done for purposes of improved protection of information resources, including the authenticity of records. This legislation deters possible culprits who may use computer-based systems, commonly used in e-commerce transactions, for bad motives. It therefore supports e-government implementation in Botswana.

5.2 Records managers' skill and knowledge requirements for the digital age

Over the past couple of decades, the archival profession has seen digital technologies as its greatest issue, and with good reason. These technologies have threatened both the ability of archivists to preserve records and the basic nature of archival work and identity (Cox 2009). In fact, Szekely (2017) observes that the information society and its technological realities make the work of archivists and records managers both easy and difficult. With ICTs, it is easy to retrieve information, and very quick. This can aid quick decision-making and give organisations competitive advantage. The difficulty arises from the complex nature and environment in which electronic records are generated. Without requisite skills, the records manager may be rendered useless. Both technical and soft skills are a necessity for records managers to effectively manage records in the digital age. The knowledge and skills requirements for records managers in the digital age include but are not limited to the following:

5.2.1 Theoretical foundation of archival science

Records managers need to be aware of archival theory. It is through such knowledge that they will treat archival documents in a proper manner. The first object of archival theory is the nature of archival documents or records (Eastwood 1994; Duranti 2001). According to Duranti (2001:39):

> Archival science comprises the ideas about the nature of archival material (archival theory) and the principles and methods for the control and preservation of such material (archival methodology). The analysis of archival ideas, principles and methods, the history of the way they have been applied over time (archival practice), and the literary criticism of both archival analysis and history (archival scholarship) are also integral part of archival science. Thus, archival science can be defined as a system inclusive of theory, methodology, practice, and scholarship, which owes its integrity to its logical cohesion and to the existence of a clear purpose that rules it from the outside, determining the boundaries in which the system is designed to operate.

What this means is that archival science as a discipline has its own theory, methodology, practice and scholarship. Since technology affects practice, it is important for records managers to comprehend archival theory as it informs practice through methodology. For example, for many years, the records life cycle model informed archival practice but the coming of ICTs forced a

paradigm shift leading to another view, the records continuum model. Some theorists felt the life cycle was inadequate to inform the management of electronic records and felt the continuum model guided the management of electronic records better.

5.2.2 Knowledge of the legislative and policy frameworks that affect records management

Records management takes place within a framework of laws and policies and these affect the way records are managed. Some laws denote clear prescriptions on what records need to be kept and for how long. In others, the need to keep records is implied. The challenge is for the records manager to discern records management requirements from the available legislative and policy frameworks. In the public sector, records management professionals should be aware of legal instruments such as:

- National Archives and Records Services Act
- Electronic Records (Evidence) Act
- Data Protection Act
- Electronic Communications and Transactions Act

Other laws affect the particular functions and mandate of particular government organisations. For example, the Public Procurement and Asset Disposal Act sets the mandate of the Public Procurement and Asset Disposal Board, which is to provide for the procurement of works, supplies and services and for the disposal of public assets. It has records management requirements peculiar to it, in relation to the procurement and disposal of assets function entrusted to it.

5.2.3 Collaborative skills

Electronic records are generated by ICTs. Information technology personnel manage the ICT infrastructure while the content (records) is managed by records management professionals. Records and IT should therefore collaborate on the management of electronic records. Records management professionals need to understand the basic IT language and processes. They in turn should make IT aware of the importance of the partnership in providing records fit enough to stand as evidence of transactions. The Legal Unit also needs to be amongst the collaborating partners. This is because for electronic records to be acceptable as evidence in the courts of law, they should satisfy certain requirements in law like those stipulated in Botswana's Electronic Records (Evidence) Act. The collaboration between records managers and the legal unit would ensure, firstly,

that records managers get to know the legal requirements for records to be created and kept for as long as they are needed, and secondly, in terms of electronic records, to put in place measures required to promote the acceptance of records as evidence by the courts. Such requirements are technical and that is where collaboration with ICT experts comes in.

5.2.4 ICT-based skills

For records managers to effectively undertake their mandate in the digital age, they need to have working skills and knowledge of using ICTs. According to Wamukoya and Mutula (2005), managing records in a digital environment poses some challenges to staff members in organisations, as new technologies require new skills and competencies to cause them to operate in such an environment. Crockett (2006) noted that people responsible for records management must have appropriate and adequate skills and competencies needed to achieve the aims of the records management programme. To use Cook's (2007) analogy, to avoid electronic records threatening paper-minded people (records managers) as nothing before ever has, they (records managers) must be equipped to manage electronic records. Furthermore, Cook (2007:406) says that "records managers must shift their emphasis from the physical "records" to the conceptual "management," from providing a warehouse service to integrating all the business processes of their sponsor with redesigned recordkeeping systems." Studies globally and in African countries have shown that records management professionals lack the capacity to manage electronic records (Sejane 2004; Tshotlo & Mnjama 2010; Kemoni 2009; Wang 2009; Keakopa 2010; Nasieku, Kemoni & Otike 2011; Saman & Haider 2012; Asogwa 2012; Adu & Ngulube 2017). Continuous education and training are the key to closing the skill gaps necessary to enable records management practitioners to take an active role in electronic records management. With requisite computer-based skills, records managers will be able to participate in the design of electronic recordkeeping systems.

5.2.5 Soft/personal skills

Archivists and records managers need a variety of soft and personal skills to survive in the digital age. Admittedly, these skills are still relevant even in an environment dominated by manual recordkeeping systems. These skills and knowledge include the following:

- **Persuasive and advocacy skills**: Maropamabi (2018:62) notes that "effective advisory and influencing skills allow records management

staff especially the records managers to influence adoption of policies and programmes within their ministries". Records managers need to think and act strategically. For records to be recognised as strategic assets that can help organisations achieve their goals, records managers need to convince strategic managers that aligning records management goals with the goals of their organisations can help organisational goal achievement.

- **Communication skills**: Records managers have to be able to communicate with managers at all the levels of an organisation (Maropamabi 2018). They should be able to sell the vision of organisational records management as feeding into the vision and mission of the organisation. It therefore means they have to speak the language of strategic decision makers and sensitize them about the crucial role records management can play to enable their organisations to remain competitive. They should market records management as a tool crucial to the survival of their organisation (Maropamabi 2018).
- **Change management**: With the maturity of e-government in the public sector of Botswana, more and more ministries and departments will deploy EDRMS and-or ECMs to manage their records and information assets. Such projects change established work practices and so necessitate change management to promote acceptance of such systems (Mosweu 2016).
- Other skills include presentation, training, and monitoring and evaluation skills. Managing records is dynamic and the skill sets required by records managers will change with advancements in technology.

5.2.6 Application of best practices in records management

Adherence to best practice standards in records management is an enabler for records management to facilitate effective records management for service delivery (Kemoni 2007). There are different standards for different aspects of records management. Some of the examples of best practices and standards useful for the management of electronic records are:

- European Union's Model requirements for management of electronic records (MoReq) (European Commission 2008)
- IRMT's Good Practice Indicators for Integrating Records Management Functionality in ICT systems (IRMT 2009b)
- ICA's principles and functional requirements for records in electronic office environments (2008)
- IRMT's e-readiness assessment model (IRMT 2005)

- IRMT's benchmarks for open government and trustworthy records (IRMT 2013)
- ICA's guidelines and functional requirements for electronic records management systems (ICA 2011)
- ISO 16175-2: Guidelines and functional requirements for digital records management systems

This list is not exhaustive. Other best practice and standards not listed can guide the management of electronic records. Records managers have to be aware of the guiding documents so that they can advise stakeholders such as ICT experts during the implementation of records management software such as EDRMs and ECMs.

6. Recommendations

The recommendations for this study have been divided between those directed to BNARS, educational institutions and the Ministry of Youth Empowerment, Sport and Culture Development. The recommendations for BNARS are that the department as the custodian of public sector records management, BNARS should consider the following:

- Influence the development and implementation of national policy on electronic records to provide policy directions on their management.
- Lobby for the strengthening of the National Archives and Records Act in terms of providing guidance on electronic records.
- Capacitate public sector records managers on electronic records management and other technical skills related to ICTs and records management.
- Collaborate with education and training institutions for the development of curricula designed to equip records managers to manage records in networked environments.
- Vigorously raise awareness of the importance of records in facilitating the achievement of national goals.

It is recommended that educational educations:

- collaborate with BNARS for the development of curricular fit-for-training archivists and records managers to manage records in the networked environment.

- work with BNARS to develop policies and guidelines for the management of public sector records
- partner with government and industry, including information technology vendors to find solutions for records management challenges.

Lastly, it is also recommended that the Ministry of Youth Empowerment, Sport and Culture Development should:

- influence government to elevate BNARS to be an entity headed at Permanent Secretary/Director General level. This will give BNARS the power to effectively advise and lead the archives and records management agenda with more authority.
- lobby government to strengthen archival legislation so that it can effectively regulate the management of electronic records.
- lobby government to enact legislation that can create an enabling environment to support accountability, transparency and good governance (e.g. FOI).

7. Conclusion

ICTs are ever changing and with them comes challenges to the management of electronic records. Archivists and records managers will continually face these challenges. They need to keep abreast of these changes lest they be left behind and possibly be out of work. They need to lose their "paper" minds and acquire "electronic" minds. With such a mindset accompanied by capabilities, records managers will be active participants in the management of records in the digital age. Contemporary issues such as cloud computing, social media, machine learning, artificial intelligence, ambient intelligence and blockchain technology have come to the fore and in some way affect the management of electronic records. This study has revealed that archivists and records managers in Botswana are ill equipped to manage digital records. Without such skills, it would be difficult to assist government to propel the economy into a knowledge-based one where ICTs are a norm. Managing a plethora of records generated by ICTs in the context of e-government would in some way be an impediment to its success. In addition, the available legislative framework to support the e-government agenda is available but lacks further guidelines to operationalize them. According to Ketelaar (2007), computing will become embedded in potentially every object or device, and these will be connected and networked. Furthermore, the mobile phone and personal digital assistant (PDA) are evolving

into devices which capture, store, and transmit speech, music, videos, photos and more, enabling cultural practices and lifestyles that are increasingly individual and mobile and work is intertwined with these lifestyles. Records managers in the digital age will work in such an environment. Consequently, they will have to adopt new ways of thinking about the same things as part of their work processes.

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