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The Management of Digital Records in the Office of the Premier of the Eastern Cape Province, South Africa

Ndakasharwa Muchaonyerwa
Information Studies Programme
University of KwaZulu Natal
Pietermaritzburg, South Africa
munetsi.ndakasharwa@gmail.com

and

Festus Khayundi
Department of Information Science
University of Fort Hare,
South Africa
Khayundife@ufh.ac.za

Abstract

The study sought to investigate the management of digital records in the Office of the Premier (OTP) in the Eastern Cape Province. The objectives of the study were to determine the compliance to the legal framework, identify the requisite infrastructure for digital records management (DRM), describe the security and preservation measures for DRM, and find out the challenges of managing digital records. The results of the study revealed that the OTP had taken a number of initiatives aimed at establishing records management practices. However, the results showed that the OTP is faced with a number of challenges in its efforts to manage digital records. Majority of those required to manage digital records lacked skills and competencies necessary for the implementation of an Electronic Document Management System. The study also revealed the need for OTP to overhaul the existing arrangements for the security and preservation of digital records.

Keywords:
Records Management, Digital Records Management, Legal Framework, Compliance, Electronic Records, South Africa

Introduction

Parrish, James and Courtney (2007) define electronic records as a combination of text, data, graphics, images or audio information that is created, maintained, modified or transmitted in digital form by information and communication technologies (ICTs). Records in digital form are becoming more influential in government operations as many countries embark on electronic government strategies (Lichpak and McDonald, 2003). E-government refers to the use of information and telecommunication technologies, to enable government to deliver services and information more effectively as well as enhancing accountability of the public administration and strengthening economic performance (Heeks, 2002; IRMT, 2005).

In view of the above, electronic records need to be efficiently managed by putting in place adequate infrastructure. Inadequate infrastructure is not only risky to reduced government programmes effectiveness but may also lead to a government facing increased operating costs, gaps in recorded memory, reduced public access to entitlements and erosion of rights, inability to comply with laws and policies, weakened capacity for decision making, increased legal, financial and political risk and reduced transparency, accountability and trust. (Mutiti, 2001; Harris, 2001; Barrett, 2005; IRMT, 2005).

This paper covers some aspects of a study which sought to investigate the management of digital or electronic records in the Eastern Cape Provincial Government in South Africa. The Office of the Premier which was the study site is responsible for ensuring effective and efficient governance in the Eastern Cape through its leadership role. The main purpose of the OTP is to provide guidance and focus

for the province as a whole through the development and implementation of policies, and the monitoring and evaluation of the performance of departments to ensure service delivery to all the people in the province. The OTP monitors the level and quality of government services and promotes a culture of access, openness and transparency that in turn should build more confidence between the government and the public it serves (South Africa, 1997).

Digital Records Management

Shepherd and Yeo (2003) point out that until recently, almost all records were on paper, but due to developments in technology many organisations are increasingly using information and communication technologies (ICTs) to create, receive, and manage their records. Ngoepe (2008) states that today there is an ever increasing flood of records generated through media such as computers, tape and digital video disks (DVD) recorders in different formats. Considering the speed at which digital records are created, their management becomes a challenge for most organisations. For government departments to be able to retrieve information quickly, they need to have proper digital records management systems in place (Milner, 2002). Proper records management as noted by Chinyemba and Ngulube (2005) involves establishing systematic controls at every stage of a record's life cycle, in accordance with established principles and accepted models of records management.

The anxiety by governments to adopt electronic or digital records management systems (EDRMS) does, however, face limitations, especially in the developing world. In most cases, both government officials and the public who may want to use government services maintained in digital form lack basic skills in accessing the information. This obviously impacts the relationship between the government and the users of its services. Ngulube (2007) avers that government information, especially in the sub-Saharan Africa (SSA) is not properly organised as records management systems in many countries lack the necessary equipment, infrastructure and trained records managers hence they are collapsing. According to Ngulube (2007) the advent of ICTs has brought about a paradigm shift in the production of government information. The transition from paper based records to digital records is happening at a time when many records managers in SSA do not have the necessary skills to deal with digital records.

In South Africa, the government has committed itself to e-government as a strategy for better service delivery to the public. This includes government to citizens, government to employee, government to business and government to government online interactions. This transition has seen digital records being increasingly generated in most government departments. According to Moloi (2001), the greatest challenge lies in the management and preservation of such records as evidence of business transactions to enable governments to capture the corporate memory. The National Archives Records Service of South Africa (NARS) strives to ensure that, in the transition to e-government, evidence of transactions in electronic records remains accessible and understandable. To manage records effectively, the NARS has endorsed the South African National Standards (SANS) 15489 and SANS 15801 which prescribe trustworthiness and reliability in records management; and SANS 23081 which requires metadata for records is embedded in the records. Electronic service delivery is seen as a new way of doing business in government, and is therefore part of on-going reforms and transformation of government (Moloi and Mutula, 2007).

The National Archives and Records Service in 2006 developed guidelines for managing electronic/ digital records in government bodies. According to the National Archives and Records Service of South Africa (NARS) (2007), electronic records include all components of an electronic information system, namely: electronic media as well as all related items such as input documents, printouts and metadata. In addition, the NARS endorses national standards which require government bodies to put in place the necessary infrastructure, policies, strategies, procedures and systems which guide the management of records both in hard copy and in electronic format.

Research Problem

The use of technology has enabled government departments to create databases that now handle huge amounts of data online (Keakopa, 2006). This

has raised concerns that if the information is not properly managed, it may not be accessed, resulting to violation of citizen's individual rights. The South African government (at national, provincial, and local levels) has committed itself to eventual digitisation of its records. While some are 'digitally born', some records in hard copy are deliberately being digitised to ensure their easy access and preservation. Digital or electronic records unlike paper based records demand special management regime at all stages of the record's life cycle. This in turn impacts the functions of the creator which in this case is the government. South Africa like many other governments in the world is grappling with the challenging issues of managing and preserving of digital records (McDonald, 2003).

Moloi and Mutula (2007) point out that those government departments that have computerised need to have a framework for managing their digital records. It has been established that South Africa has the requisite blue print for the management of electronic records but its efficacy has not been sufficiently evaluated and documented, especially at the provincial and local government levels.

Research Questions

The following research questions were addressed:

1. Does the department comply with the legal framework that governs the management of digital records in governmental bodies?
2. Has the OTP got the requisite infrastructure to promote the creation and management of digital records overtime?
3. Does the OTP have security and preservation measures in place for the management of digital records?
4. What are the challenges of managing digital records in the OTP?

Research Methodology

A case study approach was adopted for this investigation. Yin (1984) argues that case studies can involve either single or multiple cases, and numerous levels of analysis. Yin (1984) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when boundaries between a phenomenon and a context are not clearly evident".

Mixed method approach was adopted for data collection. In case study research, the use of various methods to collect the same data is highly regarded, because when you have really triangulated the data, the events or facts of the case study have been supported by more than a single evidence (Yin 1984). Studies carried out by Kemoni and Wamukoya (2000), Ngulube (2003), Chinyemba (2003), Chinyemba and Ngulube (2005), Makhura and Ngoepe (2005) and Ngoepe (2008) also made use of a combination of methods. The mixed research method employed draws primarily on both primary and secondary methods of gathering information and data. By employing the primary method, the researcher was able to collect both quantitative and qualitative data by interviewing the key informants. Secondary methods involved referring to both published and unpublished sources. Also, the study made good use of the Internet to access current literature relevant to the study. Thirty (75%) responses out of a sample of 40 were received. Data collected were categorised into themes based on the research questions, coded and analysed using the Statistical Package for Social Sciences (SPSS) version 14.

Results and Discussions

The results and their discussions logically linked to the research questions.

Legal and Regulatory Framework

Keakopa's (2007) study revealed that South Africa had established the necessary policies and procedures to guide the management of digital records. The national Archives and Record Service Act (NARS) of South Africa (No.43 of 1996 as amended), in April 2003, issued three guidelines to help government agencies manage their records namely: records management policy manual; performance criteria for records managers of governmental bodies, and managing digital records in governmental bodies' policy guidelines. NARS Act No 43 of 1996 as amended has implemented policies, guidelines and directives for the management of both paper and electronic records by government bodies. All governmental bodies are obliged by legislation to

provide for proper management of records in all formats and to give effect to the following legal regulatory instruments (for records management):

- The National Archives and Records Service of South Africa Act (no. 43 of 1996 as amended)
- The Public Finance Management Act (No. 1 of 1999)
- The Promotion of Access to Information Act (No. 2 of 2000)
- The Promotion of Administrative Justice Act (No. 3 of 2000)
- The Electronic Communications and Transactions Act (No. 25 of 2002)
- Municipal ; Finance Management Act (No.56 of 2003)

The majority of the respondents (90%) stated that they were aware of a records management policy in the OTP while three (10%) did not know whether the department had a records management policy. Popper and Millar (1997) observed that policy and legislative framework are necessary to create a favourable environment for the effective management of digital records. The legal and regulatory framework spells out how an organisation must manage its records. Available literature indicates that countries around the world are at different stages of development with regard to DRM. Most countries have archival and records management laws that require effective DRM and provide the authority on disposal of such records. Such countries have put in place digital records management policies, programmes and systems for efficient management of the records. On the other hand, developing countries, especially those in Africa, are lagging behind in the area of digital records management because of the lack of digital records management policies and inadequate expertise for developing sound digital records management programmes (Kemoni, 2009).

Interviews were conducted with the Legal Services Manager on whether the department complies with the legal and regulatory framework for digital records management. The respondent was aware that the South African National Archives and Records Service Act 108 of 1996 specifies the requirements for creating authentic digital records that are usable and reliable for as long as they are required for functional, legal and historical purposes. He further mentioned that section (5) of the South African National Archives and Records Act No 43 of 1996 as amended, authorises the use of digital systems to manage public records. The respondent was not sure if the existing records management policy catered for the management of digital records.

An interview with the Records Manager sought to clarify if the existing records management policy covered the management of electronic records. The Records Manager stated that the department was yet to incorporate the management of electronic records in the existing records management policy but efforts were being made to do so. This position concurred with Makhura and Ngoepe (2005) who found that of 30 organisations surveyed in South Africa, 25 did not have a digital records management policy.

Records management policy must be seen as an important function by all government departments involved in the generation of records in all formats. Mutiti (2001) reiterates this by pointing out that the DRM as part of the records management programme must become one of the core functions of the public sector, because digital records have come to stay and must be made an integral part of an organisation's routine operation and if possible, this responsibility should be given to a specific unit. This is also in conformity with the International Organisation for Standardisation (ISO) 15489-1:2001 which sets out the requirements to be met for ideal management of records within the digital records management systems.

Level of Education and Professional Skills

The majority of the respondents (46.7%) had degrees, seven (23.3%) had matric certificates (O' Level equivalent) whilst five (16.7%) had diplomas and four (13.3%) indicated other qualifications as their highest qualifications. Although the majority had degrees it was evident that their qualifications were less related to records management and as a result they were not familiar with records management principles and context and therefore were unable to respond meaningfully to some questions pertinent to records management in general and digital records

management in particular. The majority of the respondents (60%) did not have training in records management whereas five (16.7%) had obtained a certificate in records management. Four (13.3%) respondents held a diploma in records management and one had a Master's degree in records management as reflected in Table 1.

Table 1: Qualification in Records Management (N=30)

Level of Education	Frequency	Percentage
No training in Records Management	18	60.0
Certificate in Records Management	5	16.7
Diploma in Records Management course	4	13.3
Records Management Competency	2	6.7
Masters in records management	1	3.3
Total	**30**	**100**

The results also showed that although some members of staff in the OTP had received training in records management, they were not conversant with the management of digital records. In South Africa a shortage of professional training has been identified (Keokopa, 2006). Studies done by Kemoni and Wamukoya (2000) into the preparedness of Moi University records personnel to manage digital records revealed that it is not possible for staff with no training in records management to work effectively in an e-records environment. The International Records Management Trust (IRMT) has underscored the importance of capacity building for effective records management. IRMT (1999) pointed out that the lack of trained records managers and other relevant staff in government departments affects the operations or practices necessary for effective management of digital records. To address inadequate training and human resources development the IRMT and the World Bank came up with training programmes which address issues of information technology and policies as well as strategies in the management of digital records. A number of governments and institutions have adopted this and developed training materials for digital records management. It is generally accepted that education and training play an important role in updating knowledge and skills. It applies to both those who are already working and prospective workers.

Digital Records Management Infrastructure and Facilities

The extent to which the OTP was prepared to use the ICT environment for the management of digital records was considered important. This was based on the fact that though ICT infrastructure does not solve the problem of managing DRM, its availability is a key factor to consider when adapting digital systems (Meijer, 2001). The ICT tools allow records creation, capture, storage and preservation processes. Interviews with the ICT support staff revealed that although ICTs were being used in the department they were not deliberately targeted at records management activities. On the question of whether the OTP had a separate directorate or unit with the responsibility for the management of ICT infrastructure dedicated to the capture and management of digital records, majority of the respondents (70.0%) said there was a separate unit with the responsibility of ICT management in the department but had no idea if digital records were being properly captured and managed. Seven (23.3%) did not know if there was a separate unit

with the responsibility of ICT management in the department whereas the other two (6.7%) had no idea if there was any unit with the responsibility of ICT management.

Although the impact of ICTs on digital records management in OTP could not be well established at the time of this study it was evident that ICTs were being applied in the creation and capture of some digital records. Majority of the respondents (83.3%) said the application of ICTs led to the creation of digital records in the department, whilst five (16.7%) were not aware of the generation of digital records using ICTs in the department. Those who were aware were further asked to indicate categories of digital records which were generated through the application of ICT. As shown in figure 1, the Office of the Premier generates some digital records.

The data gathered indicated that the OTP has adopted ICT into its business operations. Interviews with the Senior Manager in HRM found that the Electronic Document and Records Management System (EDRMS) which was being then piloted in the HRM sub-directorate has substantial databases which resulted from generation of digital transactions and digital records. Interviews with the Records Manager and different managers in HRM directorate on the types of digital records being generated indicated that the following records were being generated: leave forms, records of benefits of employees, employee wellness records, and employee records of service condition, correspondence, dismissal and recruitment forms. It was highlighted that the EDRMS had improved the service delivery by the OTP. For example, enquiries from clients and staff were dealt with by searching online documents stored in the EDRMS. It was mentioned that backlog on business transactions was reduced. For example, the processing of pensions funds could now be done online and those pensioners with Internet connectivity were able to access their files online. This was a major step towards accountability and transparency as the public would be able to use this mode of access to hold the government accountable.

Among the major obstacles identified towards the achievement of generating, capturing, using and preserving digital records was the shortage of records management skills in the department. Senior managers highlighted the need to equip staff with requisite skills in order to work effectively with digital records management systems. They indicated that those charged with recordkeeping did not have adequate RM skills and therefore using EDRMS became a challenge.

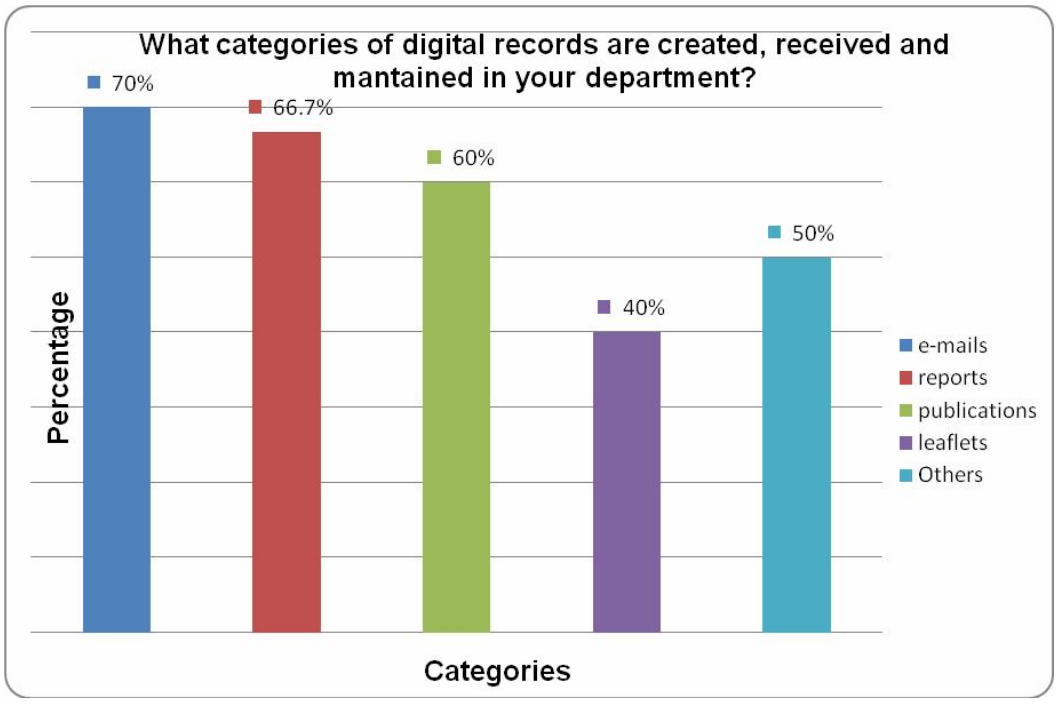

Figure 1: Categories of Digital Records, Created, Received and Maintained

Access and Security

The respondents were asked if the OTP had a system in place to ensure security and protection of digital records. The majority (60%) had no idea, ten (33.3%) said there was a system in place whilst two (6.7%) did not respond as depicted in table 2. The variations in these responses may be attributed to lack of awareness about digital records management systems. Interviews with the Records Manager indicated that the department does not place much emphasis on the security of its records but tries to secure confidential records by storing them in the EDRMS. The Records Manager reported that there was an offsite backup server where the information is stored should the system crash. Observations revealed that there were no definite guidelines on digital records security. The Records Manager pointed out that storage space was a major problem as the records store rooms were already congested and could not handle the bulk of records generated by the department. In addition most of the rooms which housed paper-based records lacked air conditioners and this tended to expose records to conditions not suitable for their preservation. The RecordsManager also revealed that there were no special storage facilities for digital records. At the time of the investigation the OTP depended on the databases in the yet to be fully implemented EDRMS solution. The interview with the Records Manager also established the absence of specific security policy for the management and storage of digital records.

Table 2: System in Place to Ensure Access and Security (N=30)

Access and security	Frequency	Percentage
No idea	18	60.0
Yes	10	33.3
No response	2	6.7
Total	**30**	**100**

An interview with the Chief Information Officer (CIO) established that staff were not allowed to provide to users and the public, information and records that were not in the public domain without consulting the Chief Information Officer. Members of staff were required to follow specific guidelines regarding requests for information as stipulated in the Promotion of Access to Information Act No.2 of 2000. However, the Chief Information Officer conceded that the level of secrecy was yet to achieve best practice benchmark. The CIO was of the view that protecting the security and confidentiality of digital records stored on databases was a problem since there were possibilities of manipulating and corrupting the records. Such concerns tended to generate uncertainty about the use of digital records systems. To mitigate this, the IT Security Manager stated that access to server rooms was managed electronically. The senior managers from HRM also pointed out that not all users were allowed to access confidential records in digital form. For example, there are people who can view the documents while others have only access rights depending on the level of access security one has. Access to storage areas where electronic records are stored is limited to the Information Technology (IT) staff whose duties are concerned with the maintenance of the hardware, software and media.

The Records Manager stated that the department was compiling a disaster recovery plan which aiming to retrieving information should the system crash. It is the view of the researcher that disaster recovery plan should not be limited to recovery of information if the system crashes. According to Tshotlo (2010) a disaster preparedness plan is an important tool central to the protection and preservation of records, and it should be incorporated into the overall management plans of the organisation.

Records in digital format are more vulnerable to various threats than records in paper format. Such threats include, among others, viruses, unauthorised access to digital records, environmental security and database security. Interviews with the IT Manager indicated that he was responsible for the day-to-day maintenance of electronic systems that store digital records. He pointed out that he normally ensured that systems that manage and store records were virus free. All users (employees) of records within the OTP are provided with usernames and passwords to access records. The IT manager pointed out that there was lack of equipment to ensure that digital records remained accessible.

Challenges to Digital Records Management

Respondents were asked to select as many as possible challenges faced by the department in using ICTs for digital records management. Majority of the respondents (66.7%) as shown in figure 2 indicated that shortage of DRM skills as the biggest challenge, followed by inadequate expertise reported by (50%), ICT facilities (46.7%) and inadequate legal and regulatory system indicated by 26.7%. Those who indicated (other) saw resistance to change as an important challenge facing the OTP department when it came to the use of EDMS. It was revealed by the Records Manager that most employees were not comfortable with the EDMS solution being implemented in the department because they fear losing their jobs. Those who were interviewed reported that there was no integrated approach to managing digital or electronic records in the Office of the Premier. Records were stored in the existing registries and also in offices with little or no control over them. This resulted into inability to locate documents and this often led to delays in responding to requests from internal and external clients. Due to these challenges, the OTP is not able to effectively hold members accountable for documents especially those in digital format.

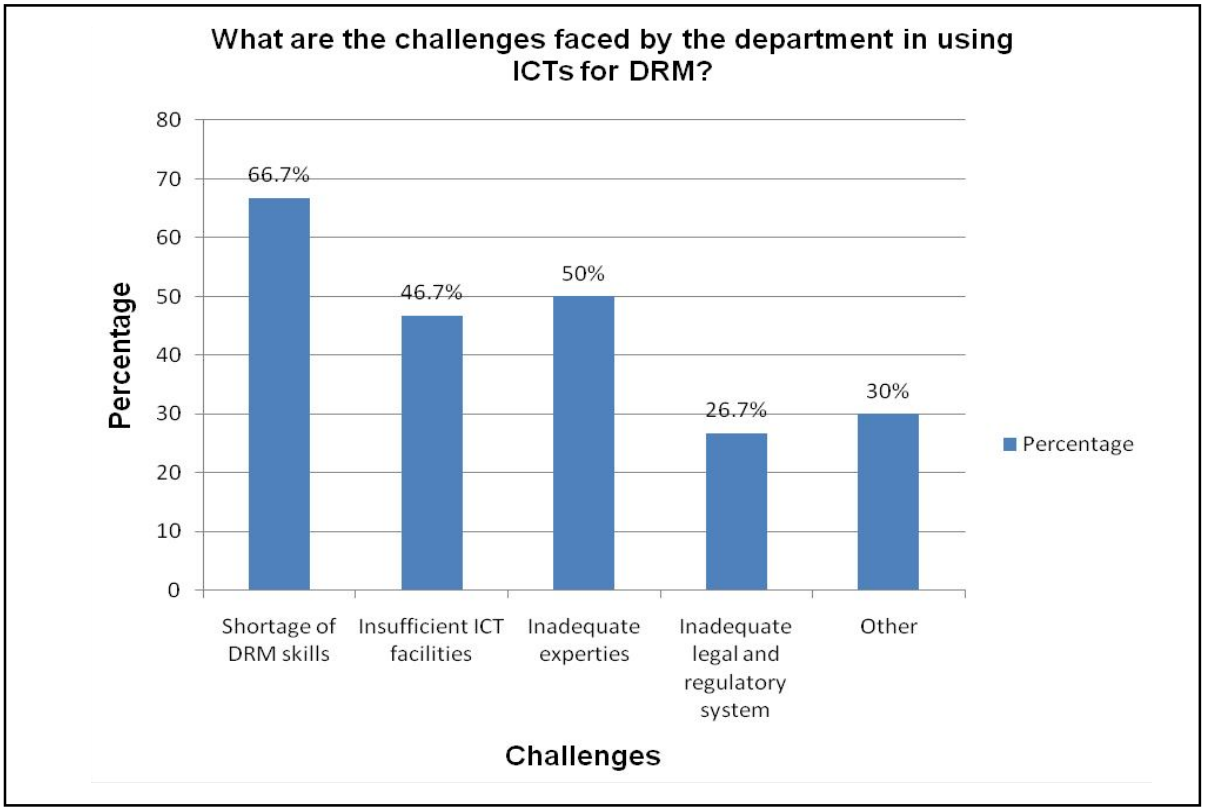

Figure 2: Challenges Faced in Using ICT for DRM

The problem of retaining highly skilled personnel especially the ICT staff was also highlighted. Staff with the necessary IT skills more often left the government for greener pastures elsewhere. This emphasised the need to address existing capacity building strategies (IRMT, 2004).

Senior management staff recommended (see table 3) that all the correspondences (memos, letters, circulars and reports) be accessed electronically as this can save time of running around and drafting letters. They were of the view that if all the documents were online they could easily be accessed remotely. About twelve (40%) of the respondents proposed that the department should put training and human resources development as the first priority. They indicated that it was important for staff to gain sufficient knowledge and expertise especially on the use of the EDRMS being implemented in the department. One of the respondents recommended that all documents in the OTP should be scanned to save space because the department did not have enough space to store the physical documents which are currently stored in the boxes and remained lying idle in the offices. Another member of staff indicated that the department should fast track the process of implementing EDMS to facilitate the delivery of services within the department to include order forms and requisitions, recruitment forms, vacancies and files on condition of services online, while another respondent suggested that the department should secure backup storage facilities for digital records management as part of disaster preparedness plan.

Table 3: Recommendations for Improving DRM in the Office of the Premier (N = 30)

	Frequency	**Percentage**
Training & human resources development	12	40
Flow of documents by scanning all of them	1	3.3
Implementing DRM	1	3.3
Backup systems and standardized format of saving digital records	1	3.3
No response	15	46.7
Total	**30**	**100**

The problems identified in this study are in agreement with findings from sub Saharan Africa by International Records Management Trust (1999, 2004), Kemoni and Wamukoya (2000) Mutiti (2001), Keokopa (2006), Tafor (2003), Makhura and Ngoepe (2005), Mutula and Wamukoya (2005), Ngulube (2007) and Kemoni (2009). This suggests that these challenges are not peculiar to South Africa.

Conclusions and Recommendations

The study established that the Office of the Premier was aware of the required legal and regulatory framework for the management of digital records and had taken a number of initiatives aimed at establishing records management practices. However, the OTP is faced with a number of challenges including the lack of necessary skills, competencies and security to sustain a digital records management programme. The need for OTP to overhaul the existing arrangements for the security and preservation of digital records is recommended. Adoption and implementation of this recommendation can bring a great deal of improvement in the management of digital records in the OTP.

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Muchaonyerwa Ndakasharwa is a PhD student at the University of KwaZulu-Natal, South Africa. Her research interest is in Knowledge Management. She has a Master's Degree in Archives and Records Management from the University of Fort Hare in 2012.

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Festus E Khayundi is Senior lecturer and Programme Coordinator, Archives and Records Management Training in the Department of Library and Information Science, University of Fort Hare, South Africa