CHANGE MANAGEMENT: A CRITICAL FACTOR FOR SUCCESSFUL IMPLEMENTATION OF AN ELECTRONIC DOCUMENT AND RECORDS MANAGEMENT SYSTEM (EDRMS): A NAMIBIAN CASE STUDY

Alina N. T. Karlos[11] & Cathrine T. Nengomasha[12]
University of Namibia

ABSTRACT

The use of information and communication technologies to conduct business has seen a rise in the creation of electronic records. Electronic records have added to the challenges of managing records which has seen implementation of electronic document and records management systems (EDRMS) in an attempt to address the challenges. This paper is based on a study which investigated the implementation of an EDRMS in the public service of Namibia. The purpose of the study was to investigate the factors affecting the implementation of EDRMS in the Namibian public service with a view to establishing the critical factors. Interviews were conducted with system end-users and system administrators. The factors which were found to impact the implementation were: Management support; resource commitment; conversion of paper records to electronic format strategies; concerns for safety and security of e-records; system maintenance; and user buy-in. All these factors collectively relate to change management because addressing them rely on managing the disruption that the changes will bring as well as ensuring acceptance of the changes by the affected staff. The study established that there was a struggle in obtaining user buy-in due to a lack of interest and negative attitude towards the system resulting in its very low usage. The recommendations include records management awareness for all staff; training to equip staff with basic computer skills and use of the EDRMS, inducing ownership of the EDRMS through decentralising some aspects of EDRMS administration from the Office of the Prime Minister (OPM) to the various government offices, ministries and agencies (OMAs).

[11] Alina N. T. Karlos is an Assistant Archivist in the Department of Information Learning and Resource Centre, Archives Unit, at the University of Namibia. Her research interest is electronic records management systems.
[12] Cathrine T. Nengomasha is an Associate Professor in the Department of Information and Communication Studies at the University of Namibia. Her research interests include electronic records management; knowledge management and e-government. E-mail: cnengomasha@unam.na

Correspondence concerning this article should be addressed to Cathrine T. Nengomasha Department of Information and Communication Studies at the University of Namibia. E-mail: cnengomasha@unam.na

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The past decade has seen a lot of focus being given to the effective and secure information management in organisations world-wide, public and private alike. The adoption of electronic government (e-government) i.e. the use of information and communication technologies by governments to conduct business has seen governments implementing electronic document and record management systems (EDRMS) to formalise the management of structured and unstructured contents within their departments. According to Joseph (2008), an EDRMS is a programmed software application that enables organisations to manage unstructured information captured in paper and electronic formats such as emails, word processed and spreadsheet contents. It facilitates the creation, management, use, storage and disposal of a range of both physical and digital documents and records in an integrated manner.

The Office of the President (OP) and the Office of the Prime Minister (OPM) of the government of Namibia, authorised the use of an EDRMS in 2009 (Office of the Prime Minister, 2010). According to Negumbo (2010), the EDRMS implemented in the Namibian public sector is based on a software application that manages all types of records created in all formats such as the paper-based format and the electronic format during their entire life cycle i.e. creation, preservation, retrieval, retention and disposal.

The National Archives of Australia (2011a) and the Public Record Office of Northern Ireland (2009) highlight the main factors affecting EDRMS implementation: Senior management support and resources commitment, conversion of paper record to electronic format strategies and tools for managing e-records, safety and security of e-records, user buy-in, change management and system maintenance. Tasmanian Archive and Heritage Office (2014, p. 1) advises that "EDRMS implementation is really an organisational change management project ... management of changes to the organisational culture, business processes, physical environment, job design/responsibilities, staff skills/knowledge, and policies/procedures". Kwatsha (2010) concluded that top management support and commitment; and change management had the most profound effect. A study of EDRMS implementation in the health sector of the Limpopo Province of South Africa by Marutha and Ngulube (2012) found that there was low usage and in some cases no usage of the EDRMS.

In this study, implementation referred to the practicalities of everyday use of the EDRMS by both end-users and system administrators in the public service of Namibia.

Statement of the Problem

Various studies have been done in Africa on factors affecting the successes and failures of EDRMS implementation, such as those in Botswana (Mosweu, Bwalya & Mutshewa, 2016); and South Africa (Kwatsha, 2010; Marutha & Ngulube, 2012; Ngoepe & Makhubela, 2015). The studies have highlighted a number of factors that contribute to the success or failure of EDRMS implementation. These include management support, resources, staff computer skills, awareness of records management by staff, concerns about security, system maintenance, user buy-in and change management. No specific study had been conducted to investigate the implementation of EDRMS in the public service in Namibia. This study therefore investigated EDRMS in the public service of Namibia to determine the factors affecting its implementation.

Purpose of the Study

This study investigated the factors affecting the successes and challenges of implementing EDRMS in the Namibian public service with a view to establishing the critical factors. The objectives of the study were to: Determine the extent of use of the EDRMS; identify the enablers and barriers to EDRMS implementation; find out the strategies used to gain user buy-in; find out the maintenance mechanisms put in place for the system; and determine the benefits of using an EDRMS to manage public records. Being the first of its kind in Namibia, the study also aimed to come up with recommendations on how EDRMS implementation could be enhanced. The findings of the study could inform policy and guidelines in EDRMS implementation.

Literature Review

Electronic Environment and Electronic Records in the Public Service of Namibia

Namibia's Vision 2030 (Office of the President, 2004) spells out the role of ICTs in promoting good governance. Namibia's e-governance policy's objectives can be summarized as "providing guidelines for an over-arching framework that will allow for the use of ICT applications to promote good governance" (Department of Public Service Information Technology Management (DPSITM), 2004, p. 7).

Namibia's overall e-government readiness is 2.2 out of 4 possible points. This score rates the country as being of "average" readiness. Making up this score are ratings of various categories making up the e-Government Readiness Index, namely: Policy (2.11), Access (2.71), Content (1.95), Capability (2.21) and Willingness (2.05) (OPM, 2014). There has been an increase in the number of computers and e-mail use. Nengomasha (2009) interviewed 85 members of staff in central government, regional councils and local authorities. All of them had computers and only two said they did not have access to e-mail. She notes that there were no e-mail policies and no guidelines on how to manage e-mail messages and attachments although officers were conducting business through e-mail.

Nengomasha (2009) found that officers decided upon themselves what to do with e-mail and accompanying attachments. The common practice was to print and file but others copied into folders but still left the e-mail messages in the inbox until they ran out of memory then had to delete or were directed to do so by the systems administrators. Matangira, Katjiveri-Tjiuoro and Lukileni (2013) came up with similar findings: "The majority of the participants indicated that they print and file their electronic records. However, email messages are usually left in the inbox" (p. 110).

Several electronic information management systems are running in the public service of Namibia. The systems use varying systems architecture, data formats and language, raising the issue of operability and the ability to share data. As part of the e-government strategies, the public service is moving towards web-based technology (Nengomasha, 2009).

EDRMS Benefits.

According to Joseph (2008), an EDRMS is a programmed software application that enables organisations to manage unstructured information captured in paper and electronic formats, such as emails, word processed and spreadsheet contents. It should also meet the ISO 15489 definition of a records system – an 'information system which captures, manages and provides access to records through time' (International Standards Organisation (ISO), 2016, para. 3:16). The organisation notes that

> a records system can consist of technical elements such as software, which may be designed specifically for managing records or for some other business purpose, and non-technical elements including policy,

> procedures, people and other agents, and assigned responsibilities (ISO, 2016, 3.6 records systems, para. 1&2).

The New South Wales Government State Record (2012) posits that an EDRMS is designed to facilitate the creation, management, use, storage and disposal of a range of both physical and digital documents and records in an integrated way.

Several studies which have investigated records management in the public sector in Africa have pointed to the benefits of an electronic records management system to solve the problem associated with records management. Ngoepe and Makhubela (2015) argue that properly captured metadata through an electronic records management system may help solve the problems of destroyed evidence, missing dockets or cases not properly registered in the South African justice system. A study by Marutha and Ngulube (2012, p. 39) discovered poor health service delivery due to poor records management and "the introduction of an electronic records management system that is capable of capturing and providing access to a full patient record and tracking paper record movement." Matangira (2016) found that the the main source of recordkeeping problems in the public service of Zimbabwe was due to the fact that Zimbabwe had not been modernised to incorporate the use of ICTs. She recommended an overhaul of records management systems in the Zimbabwe public service through the introduction of ICTs which would include designing systems for managing electronic records.

Barriers and Enablers of EDRMS Implementation.

Challenges of implementing electronic document and records management systems in the public sector have been reported by several studies (Abdulkadhim, Bahari, Bakri & Ismail, 2015; Kwatsha, 2010; Marutha & Ngulube, 2012; Mosweu, Bwalya & Mutshewa, 2016). Abdulkadhim, et al. (2015, p. 420) based on a literature review of studies on electronic document management systems (EDMS) implementation, identified the following 13 factors contributing to the implementation process of EDMS: (1) Top management support; (2) Budgetary; (3) Implementation planning; (4) Anti-corruption; (5) Implementation staff; (6) Security and privacy; (7) Data quality, (8) User requirements; (9) Cooperation; (10) Systems integration; (11) Awareness; (12) Resistance to change; and (13) Staff training. These factors as highlighted by Kwatsha (2010) can be classified into strategic, social and technical factors.

In a Botswana study, Mosweu, Bwalya and Mutshewa (2016, p. 97) found "technophobia, negative attitudes to system use, perceived system complexity and

incompatibility with existing information systems as key factors contributing to low adoption and usage of the system." However, K.C. Laudon and Laudon (2006) argue that the most common reason for the failure of large projects is organisational and political resistance to change and not technological failure. Kwatsha (2010, p. 74) notes that:

> The success of any EDRMS implementation is not just measured by getting the system in on time and on budget, but by the ability and willingness of the people in the business to use the system effectively after it goes live.

This emphasises user buy-in and use of the system. Without successful change management there cannot be effective user buy-in and use.

A toolkit proposed by Smith (2007) for successful change management highlights various factors which include: communication, training, understanding people skills, peoples' needs, organisation's operations and senior management support.

Change Management.

Adam (2008) defines change management as the process and associated actions and tasks required to manage any type of change that occurs within an organisation. Change management is concerned with the impact of new ways of working within organisations and the effect that those new ways have on the staff. National Archives of Australia (2011b) advises that the implementation of an EDRMS should be treated as a change management project since it requires staff to work differently and they are introduced to a whole new environment of managing records. The National Archives of Australia (2011b) points out that to get maximum users' buy-in, it is necessary to directly and actively consult with users through the system design.

Smith (2007) argues that at the heart of the process of change management are people, who are mostly affected by the new ways of doing things, hence the need for strategies to manage culture change. The critical issue is that change deals with people; their hopes, fears, needs and aspirations. Smith (2007) refers to three areas of major change that need to be managed: Secrecy to openness; individual to corporate; and paper to electronic.

The practice of records management in Namibia and other countries as well has promoted the setting up of 'confidential registries' in addition to the general registries (National Archives of Namibia, n. d.; Roper & Millar, 1999). A mind shift is required to let go of 'confidential' records and trust that they will be secure in the system. The creation of 'mini' registries, a term with negative connotations where

records which should be managed centrally are managed by individuals in offices has persisted in the public service of Namibia (Matangira, Katjiveri-Tjiuoro & Lukileni, 2013; Nengomasha, 2009). Another mind shift is required to accept that there is no need to keep records in the office with the trust that those records will be available should they be needed. Communication and training are promoted as main ways of promoting the acceptance of change (National Archives of Australia, 2011b).

Smith (2007) advises that in order for a new system to be accepted by staff, senior management have to lead by example and fully accept the system and the changes that it brings.

Methodology

A qualitative approach was used to gain insight and in-depth information on the implementation of EDRMS in the Namibian public service, specifically from the system end-users and the system administrators. Data was collected through interviews to gather the views and experiences of the system's end-users; and observation of how end-users interacted (search, retrieve and save documents) with the system. The population of this study was the Namibian public service. Purposive sampling technique was used to select the two cases and the participants. The sample consisted of two offices; namely the Office of the Prime Minister (OPM) and the National Planning Commission (NPC). The reasons being that OPM was the developer and overseer of the system, while NPC was among the first piloted ministries. Purposive sampling was also used to select participants from these two institutions. In total, seven people were interviewed: Four (three end-users and one system administrator) from National Planning Commission; and three (two end-users and one system administrator) from Office of the Prime Minister. Separate interview guides were used for the system end-users and the system administrators as the issues investigated were addressed from different approaches and perspectives; the one for system end-users concentrated on issues of record management while the one for system administrators focused on more technical issues of the system. Content analysis technique was used to analyse data.

Findings

The findings are presented under the following themes, some of which emerged during content analysis and others are based on the research objectives:

- Senior management support and resources commitment
- Processes of converting paper records to the electronic format
- User buy-in and change management

- Safety security and confidentiality of records on the EDRMS
- System maintenance
- Benefits of implementing EDRMS in the Namibian public sector

Participants

In the two institutions namely National Planning Commission (Office A) and Office of the Prime Minister (Office B), data was gathered from system end-users that includes records management staff i.e. registry staff and archivists; and the system administrators (IT personnel).

Table 1 below shows the number of officers interviewed and the corresponding codes for data reporting, divided into two categories: System end-users and system administrators.

Table 1

Number of Interviewees

Institution	**Number of interviewees**	**Number of officers interviewed in the two categories**	
		System end-users	**System administrators**
Office A	**4**	**3** **A1; A2; and A3**	**1** **A4**
Office B	**3**	**2** **B1 and B2**	**1** **B3**

Senior Management Support and Resources Commitment

This research was carried out under the assumption that EDRMS was being implemented on a daily basis in the public service of Namibia. As any other system, it requires resources' commitment for its ongoing as well as smooth operation with the involvement of senior management. Questions raised were to determine resource commitment, management involvement with the system's implementation and daily operations and overall budget allocation for the EDRMS implementation. All

participants said they were not aware of any other kind of involvement rather than OPM being the sole owner of EDRMS and they did not know of any budget allocation. The participants highlighted the non-involvement of supervisors and directors in the system's training sessions.

Processes of Converting Paper Records to the Electronic Format

All participants admitted to the creation and receipt of paper records daily, and that scanning was being done to convert these paper records into electronic format. After scanning, the documents were then uploaded on the system. Participants also indicated that the physical scanned documents were stored until their retention period according to the file plan.

Participants highlighted the following records that were not scanned and uploaded on the System:

- Bulky documents such as reports; and
- Records considered confidential which top management did not trust to be on the system.

However, the metadata for the bulky documents were captured on the system and could be located through assigned barcodes. "The top management do not have trust in the system, they think anyone out there can get access to the records" (Respondent A2).

All participants from both offices acknowledged that the file plan used to manage and classify paper records were incorporated in the EDRMS. Through observation, the researchers established that the file plan consisted of the reference number, subject of the record, and the retention schedule of each record. The disposal of records on the system was still authorised by the National Archives of Namibia, just like in the paper records environment.

They also highlighted a challenge that they were faced with when it came to the conversion of paper records to the electronic format. The registry staff are responsible for scanning and uploading. Respondent A3 and B1 stated that the network is slow at times and scanning is time consuming considering their daily registry activities. This leads to accumulation of paper documents.

User buy-in and Change Management

The current use of EDRMS was only daily in the registry, due to the fact that the ministries were busy scanning and uploading all existing paper records. The following is a list of initiatives that exist to gain user buy-in and change management:

- Training for managers (PS, directors, deputy directors, and supervisors)
- Training for registry staff and junior staff
- Office A stated that "some ministries developed an initiative of rewarding staff that have a positive attitude towards the system and are eager to use it"

There are committees, referred to as key users that were selected in each office. Members of these committees were trained and were responsible for training their colleagues in their ministries or offices. This training was referred to as the Training of Trainers (ToT), as members of the committees were trained in order to also train and assist their colleagues. Participants A4 and B3 outlined that the training given covered both theory and practice.

However, all participants from both offices emphasised that there were challenges in getting user buy-in highlighted as follows:

- Negative attitude towards change;
- Poor knowledge on general records;
- Lack of venues (labs) for training at office localities, thus dampening the interest of users;
- Resistance to reading the manuals they are provided with; and
- Lack of general computer skills.

Participants from both offices highlighted the various challenges faced in obtaining user buy-in in their offices. Respondent A2 pointed out that most people lacked general records management knowledge and general computer skills which made it difficult to train them on using the system. The participants also touched on the overall attitude of staff towards the EDRMS. Respondent B1 stated that overall, staff believed that EDRMS and records management were registry staff responsibilities and they had their own work to deal with. "This attitude kills the interest of learning anything even when training is provided, as people go for training just to obtain the traveling money."

Respondent A1 highlighted that "OPM is now trying to get senior management buy-in as junior staff seem to be willing to adapt to the change." Respondent B3 suggested that "maybe the use of the system must be made mandatory so that people have no choice but to implement it in conducting daily business activities."

Safety, Security and Confidentiality of Records on the System

To investigate the safety security and confidentiality of records, the study focused on authentications, classification levels of access (confidential, secret or top secret), access permissions and audit trails. The study found that the entrance to the system was controlled by an authentication feature that required the users to provide their username and password. Moreover, all participants highlighted that access permissions were assigned to each post and only the individual holding that position could access the records. Participants A2, A4 and B3, highlighted that they were not aware of any presence of secret or top secret classified records. Respondent A2 stated that "… this is simply because top management does not trust the system with those type of records…they rather keep them paper-based."

The study also aimed at establishing if the use of audit trails was being implemented in EDRMS to ensure and maintain the trustworthiness of electronic records. Respondent's A4 and B3 made it clear that audit trails were in place.

Risks of Obsolescence of Hardware and Software

The study investigated the risks of obsolescence of hardware and software of the system and the strategies put in place to control them. The study found that EDRMS was flexible when it came to hardware. Participant B3 stated that "EDRMS works on any type of brand computer hardware". However, both participants A4 and B3 raised the issue that EDRMS used by the public service of Namibia was only confined to one web browser - Internet Explorer version 8.

System Maintenance

This part of the study focused on system maintenance, and a question regarding this was posed to both system administrators. Both system administrators indicated that the main maintenance of the system was handled by the system's sole owner - Office of the Prime Minister. There were maintenance issues such as software upgrading which were done by consultants through OPM. However, the following is what they did daily:

- Troubleshooting;
- Daily enquiries from end-users; and

- Connection and networking issues.

Workflow Systems Integration

The study found that workflow systems and email systems were not integrated with EDRMS in the Namibian public service. Participants A4 and B3 highlighted that there were challenges and risks with the decision of integration due to the different vendors and consultants of each system. There was also a concern raised regarding the security of records if EDRMS was to be integrated with systems which were not designed with security features to protect the authenticity and integrity of records.

Benefits of Implementing EDRMS in the Namibian Public Sector

The following were the collected comments on the overall benefits of the system:

- Easy to get information in electronic than paper records;
- Ability to access the same file by different people at the same time; and
- Easy to share information

Discussion of Findings

The study established that EDRMS was not being implemented by all staff on a daily basis. The system was mostly used by records keeping staff that was tasked with digitising records to be captured into the EDRMS. As a result, the benefits of EDRMS were not being fully realised due to the fact that the system was not implemented daily. The findings confirm some findings of the Botswana study by Mosweu, Bwalya and Mutshewa (2016, p. 97) which found "technophobia, negative attitudes to system use, perceived system complexity and incompatibility with existing information systems as key factors contributing to low adoption and usage of the system."

Discussed below are problems of attitudes of staff resulting in low buy-in, incompatibility of the EDRMS with existing systems, absence of in-house training facilities; concern and mistrust of the system's security measures to confidentially of stored records; inadequate technology support service in the ministries, offices and agencies and a lack of awareness and training on the system for a majority of staff. As Smith (2007) points out, all these factors (discussed below) are important in their own right but collectively they lead to change management, making it the most critical factor towards successful implementation of an EDRMS.

Senior Management Support and Resources Commitment

The National Archives of Australia (2011a) argues that support from top management will ensure that resources required in the implementation of an EDRMS like funding for training are available to ensure that the system is used in the right manner in order to reap the benefits. Furthermore, the National Archives of Australia highlights that senior management support is also needed to make an ongoing resource commitment to support the operation and ongoing maintenance of the EDRMS including system administration, quality assurance, software upgrades, reconfiguration and enhancement (over time).

Judging from the responses to this section from all the participants, there was very little senior management involvement, and yet this is required as their commitment and support can help to provide vision and direction for the EDRMS and encourage subordinates to take it seriously (New South Wales Government State Records, 2012).

Processes of Converting Paper Records to Electronic Format

One of the objectives of the study was to find out the processes in place for converting paper records to electronic format. The study established that as EDRMS was not yet fully implemented in the public service of Namibia. For instance, the workflow component was not up and running and the system was not used on a daily basis. This led to a situation where the creation and use of paper-based records dominated. According to the National Archives of Australia (2011a), an EDRMS will reduce an organisation's reliance on paper records by enabling records to be managed digitally

Participants highlighted that their offices were busy scanning all the existing paper records and not the daily created and received records. They also stated that this was one of the reasons why EDRMS was not yet being implemented on a daily basis. The scanned records were then uploaded and stored until their retention periods according to the file plans. The National Archives of Australia (2011a) notes that many agencies undertake scanning projects at the beginning of implementing an EDRMS to convert accumulated paper records to digital format, so as to improve accessibility and facilitate greater sharing and reuse of information.

National Archives of Australia (2011a), Public Record Office of Northern Ireland (2009) and New South Wales Government State Records (2012) posit that it is

important that an organisation develop business rules to guide the process of converting paper records to electronic format by considering the following:

- Who will be responsible for scanning and uploading paper records (i.e. registry staff or action officers)?
- Will scanners be located centrally or in business areas?
- What quality controls need to be put in place?
- When and how can the paper originals be destroyed?

The study found that the registry staffs were the ones responsible for scanning the existing paper records and uploading them on the system. For this reason, the scanners were located in the registry area and linked to their computers. The EDRMS could not be accessed and used on personal devices or away from the offices as it was strictly confined to office desktop and government networks.

There may be legal, security or business reasons to continue keeping certain records in paper format (National Archives of Australia, 2011b). In the case of the public service of Namibia, some records could not be scanned and uploaded mainly because there was lack of trust in the system, specifically by top management.

Good records management strategies according to the the Public Record Office of Northern Ireland (2009), is concerned with records management policies, activities and tools which involves quick retrieval, retention schedules, disposal schedules and transfer of electronic records to archives after a specified period on an EDRMS. The Namibian Public Service mainly used the file plans for the naming of records. From our observation, the records on the system could be retrieved using various search options; file number, author, subject or date of creation. The study established that the file plans had to be approved by the National Archives of Namibia and uploaded, regulated and incorporated in the system by OPM.

The National Archives of Australia (2011a) specifies that there might be challenges in the processes of converting paper documents to electronic formats especially at the beginning of implementing an EDRMS. Challenges experienced by the public service of Namibia included the negative attitude towards the system by end users; a lack of trust in the ability of the system to maintain confidentiality; inadequate training facilities; and network which was too slow making the scanning process time consuming.

End User Buy-in

The overall attitude of staff towards the system was also identified as a challenge. Staff in general believed that EDRMS and records management were registry staffs' responsibilities and they had their own jobs to deal with. The National Archives of Australia (2011b) argues that to get maximum buy-in, agencies need to involve users from the very beginning, even before implementation to increase the interest of users in the system. Although there were security measures in place for the protection of e-records on the system, top management did not fully trust in the system.

This attitude contributed to low buy-in of the system. Change management was thus required to bring staff on board. The implementation of an EDRMS should be treated as a change management project since it requires staff to work differently as they are introduced to a whole new environment of managing electronic records (National Archives of Australia, 2011b). This is supported by the Namibian EDRMS service provider (personal communication, 30 August 2016) who explained that the problem was a lack of functional filling systems, poor records management awareness and computer skills by staff.

It was established that training was done using both practical and theoretical approaches. However, a lack of laboratory facilities to carry out the training at the offices resulted in extra cost and demotivated the users, as they had to leave their workplace for training. Organisations should ensure that training programmes cater for new staffs, as well as refresher training for existing staffs (National Archives of Australia, 2011a).

Some ministries/offices developed an initiative of rewarding staff that had a positive attitude towards the system and were eager to use it. Furthermore, it was highlighted that there were manuals provided to users on every aspect of implementing the EDRMS. The national Archives of Australia (2011b) advises that in order to get maximum buy-in, organisations should involve users from the very beginning, even before implementation.

Safety, Security and Confidentiality of Records on the System

Fernandez and Sprehe (2003), claim that most agencies recognise that not all information can be shared. Privacy mandates that certain human resources and financial data be kept under strict security control. An EDRM will allow for the creation of security functions that will restrict user access to areas of a file plan, to documents and containers, or set up an area of a file plan that will only be accessed by certain groups of staff (Public Record Office of Northern Ireland, 2009). The study recognized

that the entrance to the system was controlled by an authentication feature that required the users to provide their username and password.

The New South Wales Government State Records (2012), argues that the use of audit trails is beneficial in determining who accessed the documents and the actions they took on them as well as the metadata. The study found that audit trails were in place but a lot of staffs still did not have trust in the security measures in place, thus preferring to keep certain records on paper.

System Maintenance and Administration Issues

System maintenance. Implementation of an EDRMS requires resources commitment to support the ongoing operation and maintenance of the system. Maintenance is essential for quality assurance of data entry, records security, system administration, software upgrades and users training (National Archives of Australia, 2011). EDRMS implementation will not be an 'install once and walk away' experience (National Archives of Australia, 2011, p. 23). An organisation will need to make an ongoing resource commitment to support the operation and maintenance of the EDRMS, including: system administration; quality assurance; software upgrades; reconfiguration and enhancement (over time); and user training and support (New South Wales Government State Records, 2012).

The study established that the main aspects of maintenance of the system such as software upgrading were handled by the Office of the Prime Minister (OPM). This was done by consultants through OPM. The ministries and departments' administrators handled minor routine troubleshooting issues. There is a definite requirement for both records management and IT staff to be in place to maintain the system properly. The study established that records management staff and archivists were not in any way involved with the maintenance of sysEDRMS in the two investigated offices. Their involvement was limited to file plans development and scanning of records.

Workflow and legacy systems integration. Business and workflow systems include finance systems, case management systems, HR systems and email systems. An EDRMS can integrate with workflow systems taking into consideration the risks involved as business systems are often poorly designed for recordkeeping, particularly the management of records of longer term value (New South Wales Government State Records, 2012). The study found that workflow systems and email systems were not integrated with EDRMS in the Namibian public service. Participants A4 and B3 highlighted that there were challenges and risks with the decision of integration due to the different vendors and consultants of each system. There was also a concern raised regarding the security of records if EDRMS was to be integrated with systems

which were not designed with security features to protect the authenticity and integrity of records. The National Archives of Australia (2011b) advises that integrating an EDRMS with business systems will require additional specification, design, configuration, testing and implementation, possibly with assistance from an external service provider. The National Archives of Australia (2011b) further explains that other challenges of integration include: security measures; capturing and reusing metadata rather than duplicating it; designing the flow of information between systems; preserving data integrity; integrating hard-copy processing tools such as scanning; and dealing with system compatibility.

Hardware and software obsolescence. The study aimed at investigating the risks of obsolescence of hardware and software of the system and the strategies put in place to control them. The study found that EDRMS was flexible when it came to hardware. Respondent B3 stated that "EDRMS works on any type of brand computer hardware." However, both participants A4 and B3 indicated that EDRMS used by the public service of Namibia was only confined to one web browser - Internet Explorer version 8. They both raised concerns of possible software obsolescence as no attention was being paid to this. Digital records which have retention periods greater than one generation of technology, pose a challenge in terms of ensuring that these records are retained and remain accessible for as long as legal, business and accountability requirements demand (National Archives of Australia, 2011b). Organisations must therefore check for hardware and software obsolescence and deal with it accordingly.

Benefits of Implementing EDRMS in the Namibian Public Sector

Through improving the management of digital information, an EDRMS can increase business efficiency, provide greater accountability and reduce business risks (National Archives of Australia, 2011b). The benefits of EDRMS in the Namibian public service were not being realised due to the fact that the system was mostly used by records keeping staff for the purpose of scanning and uploading the existing paper records.

According to the National Archives of Austria (2011b), an EDRMS increases business efficiency through real-time desktop access to digital information by multiple users at different locations which saves time. This as well saves money as it reduces the reliance on paper records which in return increases savings on physical storage space and equipment. Unfortunately, this benefit was not being realised by the public service of Namibia as staff mistrusted the system and still kept paper records in their offices.

CONCLUSIONS AND RECOMMENDATIONS

The study found that a number of factors needed to be addressed to ensure the effective implementation of EDRMS in the public service of Namibia. These include negative attitudes of staff resulting in low buy-in, incompatibility of the EDRMS with existing systems, absence of in-house training facilities, concern and mistrust of the system's security measures to confidentially stored records and inadequate technology support. Addressing these issues require a change in the way in which the public service operates; and full commitment by all concerned i.e. management and staff, to embrace the changes, thereby making change management a critical factor for the successful implementation of the EDRMS in the public service of Namibia.

The following recommendations highlight areas which the public service of Namibia requires to focus on as it plans for change management to enhance EDRMS implementation. These address the three areas of major change: Secrecy to openness; individual to corporate; and paper to electronic (Smith, 2007). Similarly, the recommendations incorporate some of the issues highlighted in Smith's (2007) toolkit for successful change management which include communication, training, understanding people skills, peoples' needs, organisation's operations and senior management support.

The study recommends the following:

- The public service of Namibia needs to put its manual paper records management system in order before proceeding with the implementation of EDRMS nation-wide. "Mini" registries situation that persists due to mistrust has no room in the effective and efficient management of records, let alone EDRMS which aims to facilitate records and information sharing.
- The public service of Namibia should create awareness on the importance of records management to the entire public service as well as train all users on the use of the EDRMS. Measures should be put in place which will give staff no option but to use the EDRMS. Offices should be cleared of all records and procedures for records control and movement of records put in place to discourage the creation of mini-registries;
- The Office of the Prime Minister, considered the "sole owner of EDRMS" should involve the National Archives and records keeping staff in decision-making about the operations of the EDRMS to plan for the management of archives in the long run; and
- The OPM should empower system administrators in the Ministries, Offices and Agencies (OMAs) by decentralising more issues to do with the EDRMS to OMAs such as EDRMS budget. This will induce a sense of ownership of the EDRMS by OMAs, which will enhance senior management support, participation and commitment and end-user buy-in.

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