

# The Impact of Electronic Records Management Systems on Reducing Paperwork in Higher Learning Institutions at Mbeya University of Science and Technology (MUST)

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## Abstract

*The study assessed the impact of electronic records management systems on reducing paper work in higher learning institutions using the case of Mbeya University of Science and Technology (MUST). The study adopted three specific objectives: examining electronic records management systems for reduced paper work at MUST, determining the need for paper records in conducting government business at MUST, and establishing challenges associated with utilizing e-systems on public records management at MUST. The study used a descriptive research design where data were collected using interviews and focus group discussions with a sample of 30 respondents which were purposively and conveniently selected. The findings of the study indicate that, MUST use e-office as an electronic system for managing its records. Also, the study reveals that paper records are still created, used, and managed by the institution. Despite the adoption of e-office MUST experiences challenges like; low knowledge of records custodian on using ICT facilities, low network limiting continuation of works, power cut off leading to accumulation of pending works, inadequate ICT facilities such as printer, scanner and Uninterruptible Power Supply (UPS). The study recommends; the provision of basic knowledge of ICT to records custodians, increasing the supply of ICT facilities and infrastructures, and updating legal frameworks to accommodate the current technological changes.*

**Keywords:** E-records, e-records management system, digital technologies, paper records.

## 1.0 Introduction

The advancement of science and technology since the 1950s pushed organizations around the world to transform the way they conduct their business to improve service delivery and sustain in a competitive market (Amesho, Lin, Gong, Chou, Cheng, Wang, and Lee, 2021). Moahi, Rathapo, and Sebina, (2017) claimed that the technological revolution affected the management of records to a great extent as a result records are created, disseminated, used, and stored electronically. On the other hand, Shonhe and Grand (2020) affirm that records- keeping practices have been changed and improved by the use of ICT thus, most government and non-governmental agencies are now using technological systems as a means of improving and fostering service delivery. Moreover, the benefits of ICT application for records management were recognized and implemented by governments globally, in Africa and Tanzania though they differ in level of adoption and use.

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Developed countries are recognizing the fundamental role played by electronic records management systems (ERMS) in improving information broadcasting, improving the efficiency of public services, and increasing the transparency and accountability of government administration (Giri, 2020). Zaja (2021) asserts that developed countries such as the United States of America, British, Norway, Sweden, Finland, and Denmark have shown their seriousness towards the implementation of electronic records management systems (ERMS). The author further ascertains that these countries have been developing legislation, regulations, and standards for instance, the ISO standard for auditing and certifying digital repositories ISO 16363: 2012, which recommends best practices for assessing the trustworthiness of digital repositories. On the other hand, the United States of America developed a Paperwork Reduction Act of 1980 targeting to reduce the use of paper works in the operations of the federal government (Visbal, 2009). All these have been done to ensure the effective adoption of ICTs, ensuring authentic and reliable records are created, disseminated, and effectively stored in digital technologies.

Similarly, African governments have been using technology to ensure digital technologies are used in the management of records and archives. Matlala and Maphoto (2022) argue that the advancement of digital technologies makes electronic records becoming necessary in the African public sector. Also, Moah et al., (2017) claimed that the necessity of using and implementing Information and Communication Technologies (ICTs) in the management of records is contributed by its efficiency and promptness in service delivery. Other scholars (Malanga & Kamanga, 2018; Chang'a & Mwilongo, 2022) observed the establishment of e-office systems in South Africa, Nigeria, Malawi, and Ghana to promote e-government and improve public service delivery. However, the authors observed Kenya and Uganda to be ineffective due to a lack of sufficient efforts towards the implementation of e-office, for instance, Uganda was found to be challenged with inadequate environment and facilities to support digital technologies in managing electronic records.

Also, the government of Tanzania has not remained behind in adopting digital technologies in the management of e-records and service provision. The government established e-Government Agency (eGA) under the Executive Agencies Act, Cap. 245 as a semi-autonomous institution to supervise, coordinate, advise, support government strategies, and enforce e-Government standards to public institutions (URT, 2012). Maleko (2022) argues that, government efforts towards e-Government targeting to reduce paper work in terms of acquisition, creation, circulation, storage, and preservation to increase efficiency in public institutions. Also, the government of Tanzania introduced relevant policies such as the Records and Archives Management Policy of 2011, legislations such as the Records and Archives Management Act, of 2002, and adopting international standards (ISO 15489:2001 & ISO 9001:2015) to ensure authentic and reliable records are digital created, stored and preserved for future uses.

Furthermore, to ensure service delivery is improved through proper management of e-records in Tanzanian public institutions eGA by collaborating with other stakeholders introduced e-office as a means of reducing paper work in the conduct of government business (URT, 2012). Kashaija, (2023) affirms that the electronic office (e-office) accommodates creation, dissemination, and use and provides storage of government records. To ensure government records remain safe and intact eGA is running an e-office on the government internet and collaborates with the Records and Archives Management Department (RAMD)

as a mandated department responsible for overseeing the management of records in government MDAs (URT, 2017).

Despite the visible efforts witnessed to improve service delivery and management of records in electronic systems particularly e-office still paper-based records are still highly created and accumulated in Tanzania public service. Scholars (Maleko, 2022; Kamatula, 2018 and Kashaija 2022) evidenced that government MDA's experience challenges relating to, shortage of space, lack of storage facilities, inadequate retrieval and access to information as well as backlogs of records. These challenges in the current world of digital technologies indicate that paper records are still created to a large extent which is why they accumulate and lead to backlog problems. This is a surprising situation because one would expect scholars to speak less about the backlog of paper records in public institutions if there was effective use of digital technologies like e-office. The study is therefore, conducted to examine electronic records management systems for reduced paper work at MUST, determining the need for paper records in conducting government business at MUST and establishing challenges associated with the utilization of E-Systems on public records management at MUST.

## **2.0 Literature Review**

This section presents a review of literature on the impact of electronic records management systems on reducing paper work. The section discusses; electronic records management systems in reducing paper work, the need for paper records in conducting government activities, and challenges associated with the use of e-records management systems.

### **2.1 Electronic Records Management Systems**

Chang'a and Mwilongo (2022) defined e-records management systems (ERMS) as computerized systems that allow the creation, capturing, dissemination, and storage of records using an electronic environment. These systems are of different type but they play the same role such as; DocuPhase, Laserfiche, SharePoint, NewgenONE, and e-office. Kamatula (2018) argues that e-records management systems are considered an integral part of e-government that facilitates and enhances efficiency in service delivery and ensures effective utilization of office space. On the other side, Mukred et al. (2019) affirm that electronic records management systems improve the efficiency of government operations, enhance transparency and accountability, and improve decision-making processes as well as enhance the delivery of efficient and cost-effective public services to the citizens. Moreover, Ndenje-Sichalwe and Ngulube (2009) evidenced that, the management of records fosters good governance and protects citizen's rights hence, necessary efforts should be taken to ensure records including those in electronic format are preserved in an efficient system.

### **2.2 Electronic records management systems in reducing paper work**

According to Benmakhlouf and Chouaou (2024), the use of electronic records management systems over time contributes to significant reduction in paper usage. The authors further claim that e-records management enabled institutions to operate in a digital way which facilitates, efficient management of a high volume of documents, and files and simplifies

access to records. In this view, Zaja (2021) observed fewer paper records in European countries like Iceland, Finland, and Denmark due to the effective implementation of digital technologies in service provision as well as in the management of records. Also, Jervis and Masoodian (2013) observed in New Zealand, e-records management systems (ERMS) to contribute in reducing the use of paper records and seem to be a solution to problems related to managing paper records such as; access and sharing of information, deterioration caused by excessive use of paper records, loss of information due to mishandling and inappropriate storage facilities. Nevertheless, Njung'e and Kagiri (2015) revealed e-records management to be adopted in the medical sector in Nairobi as a result reduced number of paper records created to support medical treatment in public hospitals.

Furthermore, Kashaija (2023) affirms that e-records management systems such as e-office enabled the government of Tanzania to reduce the usage of paper records in performing government activities, reduce the movement of physical files, and minimize the number of staff to deal with physical files.

### **2.3 Need for paper records in conducting government activities**

Paper records are defined as documented information in the paper form received or created by an organization to support the running of business activities, also they are kept for evidential and referential purposes (Magaya, 2010). In Malaysia Abidin and Husin (2020) ascertain that paper records are much safer compared to e-records, the authors claim that digital records are vulnerable to malware, exposed to cyber-attacks hence cannot be relied on fully by the government of Malaysia due to the lack of strong protective measures. The same observation is made in Africa, where countries like Botswana are observed to trust paper records in running government activities and use them to ascertain principles of good governance like accountability, transparency, and the rule of law (Mosweu and Rakemane, 2020).

Also, the government of Tanzania is evidenced to have much trust in paper based records, the use of e-office in most government institutions still studies conducted show a high accumulation of physical files in public service organizations (Ndenje-Sichalwe, 2011; Kamatula, 2018; Kashaija, 2022). From a scholar's point of view, it seems that paper records are still needed in government activities despite the pressure of the development of science and technology. Moreover, the need for paper records seems to be attributed to the ability of physical records to present authentic and reliable records something which is observed to be questionable in an electronic environment.

### **2.4 Challenges associated with the use of e-records management system**

According to Kashaija (2023), the introduction of digital technologies such as e-office in service provision and the management of records comes with several challenges that limit its effective adoption and implementation, especially in developing countries. The same views are raised by Al Qady and Kandil (2013) who uphold that, a paradigm shift from traditional paper-based to electronic-based records management faces challenges, especially in ensuring authenticity, reliability, integrity, and transparency of records stored in electronic records management system (ERMS). On the other side, Odekunle (2017) found that sub-Saharan African countries experience similar problems in using

digital platforms especially e-office these include; a limited number of IT personnel with knowledge of records management, limited resources to support effective implementation of e-office like, computers and inadequate ICT infrastructures.

Furthermore, the study of Marwa (2023) on a review of records and archives management laws in ESARBICA countries revealed that records management legislations in many African countries such as; Botswana, Uganda, Namibia, South Africa, Kenya, and Tanzania seems to either be outdated not accommodating management of e-records to a large extent. The author cited some laws for instance, Tanzanian Records and Archives Management Act No. 3 of 2002 the entire Act has not addressed management of e-records. This situation implies that electronic records in digital technologies such as e-office are not safe as they lack effective back-up of laws. Also, this might be a reason for African governments to remain behind on the effective adoption and implementation of e-offices in records management and service delivery.

Lastly, the literature and other empirical studies discussed above indicate that e-records management system (ERMS) is inevitable across the world, especially in the conduct of government activities. Despite the contribution brought by digital technologies like e-office in the management of records and service delivery the role of paper records seems to be substantial because paper records, especially in African countries observed to be trusted and believed to be more authentic and reliable, especially by bodies responsible for protection of people's rights like a court of law. Therefore, from the literature's point of view, e-records cannot operate on their own especially in developing countries due to technological challenges like inadequate ICT infrastructures, hacking of e-records systems, inadequate power, and low network. Due to these challenges, government operations to be safe should use both e-records as well as paper records.

### **3.0 Methodology**

This study used a descriptive research design. Data for this study were collected using interviews and focus group discussions. A sample of 30 respondents was chosen among staff from Mbeya University of Science and Technology (MUST) to participate in this study through the use of purposive and convenient sampling techniques. Group discussion was conducted with; 10 Registry staff, 8 IT officers, 5 Assistant lecturers, and 4 human resource officers, on the side of the interview, was conducted with the Human resource manager (1), Head of IT (1), and Head of admission office (1). Data for this study were qualitatively analyzed using quotations and narrations obtained from interviews and group discussions.

### **4.0 Results and Discussion**

This part presents findings collected at MUST about the impact of electronic records management systems on reducing paper work in higher learning institutions. The sub-sections below present;

#### 4.1 Electronic records management systems for reduced paper work at MUST

The study examined the extent to which electronic records management systems particularly e-office succeeded in reducing the use of paper work in public services. Findings show that, MUST use e-office to manage both open and confidential records. Moreover, respondents pointed out a number of opportunities brought by e-office in the management of records such as; reduced accumulation of pending letters, reduced customer complaints, speeded decision making, reduced movement of physical files, reduced deterioration of physical files, reduced loss of records, increased efficiency, transparency and accountability. Despite the opportunities, effective adoption, and use of the e-office at MUST still officers work on physical files especially confidential files which were not yet uploaded to e-office due to budget constraints. Also, the study revealed that subject and personal working files are accumulated with physical documents however, decisions are not made on physical files.

During group discussions with registry staff, they verified that MUST use both paper and electronic records. From the discussion, it seems that physical records must either be created or received and scanned for the e-office to function. Also, it was identified that, after scanning the document no further actions are taken on the physical document, the movement of the document, and decisions are made in the e-office. This practice is different from the old analogy paper-based system where the documents were moving physically and decisions were made on physical files. Therefore, it seems that to some extent e-office has reduced the use of paper work but not as expected because physical files are still accumulated with physical documents. Moreover, the study identified that the accumulation of physical files is caused by low trust in e-records, this is evident by the comment of one respondent during the interview commented;

*"Paper records are still created and used as a source of evidence because e-records are not trusted much due to having many loopholes of forgery that's why whenever there is a problem evidence of paper records must be submitted" ... (R1)*

This comment indicates that paper records are most trusted compared to e-records that's why they keep on accumulating in public institutions therefore, there should be necessary efforts to ensure e-records are trusted and rely on evidence provision. This will be possible if the government introduces legal frameworks that support and insist on the use of e-records especially in auditing activities and lawsuits.

#### 4.2 Need of paper records in conducting government business at MUST

The study also sought to determine the need of paper records in conducting government businesses. The study findings indicate that, MUST still create, use and manage paper records for reference purposes. This shows that despite adopting electronic systems e-office specifically, paper records are still needed in performing government activities. From group discussion, respondents show that whatever records are found in the e-office are all found in paper format. In-charge of the open registry said;

*"No records which are freshly digitally created unless minutes (conversations among action officers) which at last are printed and attached to the respective correspondence" ... (R2)*



This comment shows that paper records are not avoided their accumulation seems to be the same as the old analogy paper system. Also, it was identified that paper records are most trusted and believed to be authentic and reliable. Respondents indicate that serious issues such as; lawsuits, disciplinary proceedings, and auditing activities require the submission of physical files and not otherwise. This is evident in the extent to which paper records are dependable and needed to support government activities. Kashaija (2023) observed a similar issue at the Tanzanian Ministry of Finance where he found paper records to be more significant, especially in evidence provisions like, financial retirement at the Ministry requires submission of physical evidence. Also, the author, indicated that the Ministry trusted on paper records as a means of enhancing the security and confidentiality of sensitive information. Moreover, Marwa (2023) supports this argument, where he shows paper records are inevitable due to low investment in legal frameworks, the author indicates that most records management legal frameworks in African countries like; Malawi, Kenya, Uganda, and Tanzania do not address management of e-records thus, jeopardizing the efforts of becoming paperless in public service organizations.

#### **4.4 Challenges associated with the utilization of E-Systems on public records management at MUST**

The last objective of this study was to establish the challenges MUST experience in using electronic records management systems particularly e-office in the management of public records. Findings indicate that, MUST face several challenges in implementing e-office, these include; power cut off, scanning of bulk documents, low network, people assuming other responsibilities like closing mail before the end of the conversation, shortage of facilities especially printer, scanner, and Uninterruptible Power Supply (UPS), low knowledge among action officers on using e-office, absence of internal e-office backup and lack of digital signature. These challenges were assumed by respondents to be the source of limiting the effective use of e-office at MUST. Through group discussion, it was also recognized that the persistence of these challenges makes paper records inevitable. In addition, during the discussion one respondent observed to be unsure if there will come days when the Tanzanian government will shift to e-records, she said;

*“Due to technological challenges like inadequate power supply, low network, shortage of ICT facilities and low priority on records management issues. I don’t think it will reach days where the Tanzanian government will shift to e- records” ... (R3)*

This comment indicates disappointment with total migration to e-records unless efforts are made to mitigate the observed challenges. Issues like missing digital signatures at MUST make digital records lack integrity hence, cannot be dependable in evidence provision. Also, the above-mentioned challenges seem to complement those of Odekunle, Odekunle, and Srinivasan (2017) who observe inadequate implementation of e-office in the management of records in sub-Saharan African countries due to; shortage supply of power, low priority given to records management, low number of IT expertise, scarce of ICT facilitates and infrastructures. These challenges seem to affect the effective implementation of e-office in public service organizations.

## **5.0 Conclusion and Recommendations**

The study assessed the impact of electronic records management systems on reducing paper work in higher learning institutions. From the findings, the study concludes that e- records management systems particularly e-office to some extent managed to reduce the excessive use of paper records however, the system failed to reduce the creation and management of paper records as a result paper records are still accumulated to high number in public service organizations. This situation has created a demand for physical files, storage space, and facilities like in traditional paper systems. The study further revealed that, e-office only reduced the movement of physical files but paper records are still created and used in performing organization activities. The study therefore recommends; filling the gap in ICT facilities and infrastructures to ensure works are not delayed due to a shortage of facilities and poor ICT infrastructures, regular training especially on new versions of e-office to keep users up to date, the government should update its legal frameworks like Acts, Regulations, and Policies on records management to accommodate the current technological needs to enhance trust over the authenticity and reliability, e-records should be fully recognized and relied in evidence, especially in auditing and lawsuit, records custodians should get basic knowledge of using ICT facilities to improve their efficiency and there should be effective adoption of digital signature to enhance authenticity and reliability of born-digital records.



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