Open Access Library Journal
2026, Volume 13, e14856
ISSN Online: 2333-9721
ISSN Print: 2333-9705

Exploring the State of Digital Records Preservation in Botswana's Public Sector

Nna Motlhasedi

Department of Information Science, University of South Africa, Pretoria, South Africa
Email: motlhny@unisa.ac.za

How to cite this paper: Motlhasedi, N. (2026) Exploring the State of Digital Records Preservation in Botswana's Public Sector. *Open Access Library Journal*, **13**: e14856.
https://doi.org/10.4236/oalib.1114856

Received: January 8, 2026
Accepted: May 12, 2026
Published: May 15, 2026

Abstract

The digital records preservation strategies used by public sector organisations in Botswana were evaluated in this study. Owing to technological advancements and the government of Botswana's e-government initiative, the production of digital records has become inevitable. Consequently, the public sector should implement effective records management practices, including the preservation of digital records, to guarantee the accessibility of records in the long term. The purpose of this study was to investigate and assess the current state of digital records preservation in Botswana's public sector. The objectives of this study were to investigate and determine the availability and appropriateness of a legislative framework that governs digital records preservation in Botswana's public sector and to identify the strategies that are used for the preservation of digital records in this sector. A qualitative methodology was used for the study. A systematic literature review was conducted for purposes of data collection, followed by a thematic analysis of the data. Therefore, the findings for this study are derived solely from a synthesis of existing literature thus the main findings of the study indicate that digital records preservation is not practised in Botswana's public sector. In addition, the study revealed the existence of weak and inadequate legislation that does not support digital records preservation. The recommendations based on these findings are that legislation should be developed to promote digital records preservation and that public sector organisations should consider developing and implementing suitable strategies to support the preservation of digital records.

Subject Areas

Information Science

Keywords

Digital Records, Records Management, Digital Records Preservation, E-Government, Government of Botswana

1. Introduction

Technological developments have led to a rapid increase in the automation and digitisation of organisational processes. Records management has become automated, and the functions associated with records management call for the adoption of innovative methods, particularly digital records preservation. Digital records preservation refers to the maintenance of digital content and encompasses processes, activities, and digital information management practices that are implemented over time to ensure the long-term accessibility of digital information. The term "digital preservation" specifically refers to policies, strategies, and actions that support long-term access to digital content [1] [2].

Governments worldwide have introduced e-government as an enabler of improved service delivery through Information and Communication Technologies (ICTs) and as a means of reducing costs while increasing the effectiveness and competence of the public sector [3]. [4] remark as follows in this regard:

"*The reason for the sudden rise in e-government practices in the contemporary world is due to the fact that e-government systems have the capability of promoting better governance. E-Government helps in achieving greater efficiency in government performance by raising service performance, and service delivery, by eliminating inefficient processes and reducing bottlenecks and red tape in the service delivery process as much as possible.*"

Therefore, the use of ICTs has led to the production of large volumes of records requiring proper management, which entails, among other things, record preservation. Effective records management relies on best practices such as adequate storage facilities, a suitable environment, and appropriate preservation conditions. According to [5], information is only considered a record if it meets certain characteristics, such as genuineness and authenticity. In other words, the information provided in a record must be true, correct, and original. Therefore, records must be comprehensive, well-preserved, accessible, and secured, making effective digital records management imperative [6]. One key aspect of effective digital records management is digital records preservation, which ensures continued access to information for future reference. According to [7], digital records preservation in Africa is an ongoing effort that has generated significant interest but lacks sufficient capacity or resources.

According to [8], digital records preservation is defined as "all managerial and financial considerations including storage and accommodation provision, staffing levels, policies, techniques, and methods involved in preserving library and archive materials and the information contained in them". Similarly, [9] defines dig-

ital records preservation as a set of management processes and activities that guarantee permanent access to digital information, including, among other things, scientific and cultural heritage. [10] defines digital records preservation as "the active management of digital content over time to ensure ongoing access". The proper preservation of digital records has become a major concern following the advent of e-government in Botswana's public sector, given the lack of relevant regulatory and legislative frameworks, the lack of skills in digital records management and preservation, and technological shortcomings such as inadequate infrastructure.

2. Statement of the Problem

The government of Botswana has embarked on an e-government initiative aimed at improving public service delivery. Although the project is still in its early stages, it has already led to the generation of large volumes of digital records through various e-government platforms. However, the effective management and long-term preservation of these records in line with established records management standards present significant challenges. These challenges, which include technological limitations, the absence of a comprehensive legislative framework, and a shortage of skilled personnel in the public sector, hinder the government's ability to optimise technology for efficient service delivery. In the midst of these challenges, the increasing volume of digital transactions continues to generate large amounts of electronic records, making it essential to maintain their integrity and quality. Therefore, the aim of this study is to explore these challenges in detail, to assess their impact on the preservation of digital records, and to propose practical solutions to ensure that Botswana's e-government initiative achieves its objectives while safeguarding the integrity and accessibility of digital records.

3. Purpose of the Study

The main purpose of this study is to establish the current state of digital records preservation in Botswana's public sector.

Objectives of the Research Study

The following specific objectives support the achievement of the main objective of this study:

- To determine the availability and appropriateness of a legislative framework that governs digital records preservation in Botswana's public sector.
- To identify the strategies that are used for the preservation of digital records in Botswana's public sector.

Research Questions for the Study

- Is there a legislative framework that governs digital records preservation in Botswana's public sector? If so, is it appropriate?
- What digital preservation strategies are used in Botswana's public sector?

4. Literature Review

Digital records, like their paper-based counterparts, need to be managed properly

and preserved by means of acceptable methods to guarantee their continued accessibility and usability. The importance of digital records accessibility cannot be overemphasised. [11] argue that digitisation and record-keeping in Africa are hampered by technological obsolescence caused by constant changes in computer hardware and software, resulting in diminished access to digital information. Different factors that contribute to digital records preservation are discussed in the subsections that follow.

4.1. Legislative Framework for Digital Records Preservation

A nation's management of records, including records kept in networked environments, is greatly influenced by its legal framework. An efficient integrated system for managing records can only be established after comprehensive and up-to-date archival legislation has been enacted and put into effect. A legal framework and policies are essential for guiding the preservation of digital records [12] [13]. Studies have shown that, despite the importance of enacting regulatory frameworks for digital records preservation, many countries have yet to develop and implement such frameworks. Though the volume of digital records is expanding astronomically and rapidly, sub-Saharan Africa has paid relatively little attention to legislation on digital records preservation [14].

To ensure the long-term accessibility of information, stakeholders should contribute to the promulgation of regulatory frameworks to ensure organisations establish structures that support records and information management personnel in effectively managing and preserving records, regardless of their format but especially digital records. [15] argue that a comprehensive legislative and policy framework is required to effectively integrate digital records practices into e-government. They highlight recurring concerns, including a lack of appropriate legislation and an urgent need for a modern, all-encompassing legal framework to address the complexities of electronic record-keeping. Therefore, decisions and actions pertaining to digital records preservation should be guided by policies that fall within the parameters of national legal systems [16].

4.2. Strategies for Digital Records Preservation

The preservation of digital information resources focuses on ensuring information access and business continuity. According to [17], business continuity involves deliberate actions by institutions to ensure that vital business information remains accessible. Various strategies can be used in digital record-keeping to ensure the long-term accessibility of information. Strategies that can be used for the preservation of digital records and information resources include, but are not limited to, migration, refreshing, emulation, and replication.

4.3. Migration

Migration is one of the digital preservation strategies that helps ensure the longevity of records. Migration is defined as a set of organised tasks designed to

achieve the periodic transfer of digital materials from one hardware/software configuration to another, or from one generation of computer technology to a subsequent generation. Migration preserves digital materials by maintaining their current file format or by converting them to a more manageable format to ensure continued access [18]. When a specific strategy is implemented for digital records preservation, it is critical to adhere to international standards and frameworks. [19] notes that compliance with standards such as [20], the OAIS reference model, and other relevant ISO standards will help ensure that preservation efforts are in line with global trends and best practices. More recently, there has been a trend and phenomenon in digital preservation tactics throughout Africa, particularly in Botswana, where the use of modern digital preservation techniques is evident. In his study, [13] established that "digital preservation efforts were noted in seven Botswana public service ministries whereby preservation strategies such as migration of data from the old systems to the new updated systems were used".

4.4. Refreshing

Refreshing is a strategy that information resource centres such as archives, libraries, and records management departments use to preserve digital information resources. It involves transferring digital data from an outdated physical storage medium to a more up-to-date one before the original medium deteriorates or becomes obsolete [21] [22]. Given the constant advancements and innovations in technology, information management professionals, including archivists, records managers, and curators, are responsible for ensuring that suitable storage mediums are used to guarantee the accessibility of information. According to [23], "the lifetime of a medium determines the period of time in which the information recorded on the medium is stored safely without loss. The specification of the lifetime of the medium will prompt librarians or archivists to refresh their media before medium deterioration." As an alternative measure to digital preservation of information, refreshing plays a crucial role as it offers a means of dealing with the challenges posed by rapid technological advancements, ensuring that digital records and information resources remain usable, accessible, and intact in the long term. Without refreshing, digital information risks becoming obsolete, lost, or irreversibly corrupted or damaged. In Botswana, according to [13], a few government departments have adopted the use of refreshing and data backup to guarantee digital records' long-term preservation. These developments are crucial to implement and adopt as technological advancements in records management require records management practitioners to ensure that despite any new technological innovations, records remain accessible and truly preserved.

4.5. Emulation

Amid rapid technological advancements, emulation is used as a means of effectively preserving digital records and ensuring continued access to information. This digital preservation strategy involves recreating original computing environ-

ments, enabling the use of outdated data and applications on modern systems. "Emulation practices are computational, technical processes that allow for one system to reproduce the functions and results of another. An emulator is intended to faithfully reproduce information, experience, or form with hardware or software, or in combination" [24].

[25] notes that emulation involves converting instructions from original programs to run on new platforms using specialised software called an emulator. The older software operates "in emulation" on more recent platforms. This is achieved by eliminating the need to maintain the functionality of older hardware or to keep previous hardware working. [25] further explain that programs or materials designed for one environment can run in another, typically a newer program because the emulator replicates all the hardware and software features needed for another machine of a different architecture to function. Botswana has experienced a slow embrace of digital preservation although it is undertaken as noted previously by authors like [13] and [26]. This is alluded to by [27] who observed that at the University of Botswana. The university policy on digital preservation explains clearly that where necessary and possible, software emulations will be provided to access unmigrated formats where relevant software has become obsolete. This assertion ascertains that there are provisions of support although not fully capacitated.

4.6. Replication

Replication is a digital records preservation method that involves creating multiple copies of digital content and storing them in several locations to prevent data loss and to ensure long-term access. [25] indicate that the copying process and the use of multiple storage locations are aimed at enhancing the durability of digital records while maintaining their integrity and validity. Replication is essentially "a digital migration process where there is no change to the packaging information, the content information and the Preservation Description Information (PDI). The bits used to convey these information objects are preserved in the transfer to the same or new media-type instance" [28]. A study by [29] conducted at the University of KwaZulu-Natal revealed that among the different methods adopted by the university for digital records preservation, replication was used specifically by the university archives.

The above-mentioned digital records preservation strategies are essential for guaranteeing the long-term accessibility, authenticity, and usability of digital records and information. However, the literature reveals gaps in policy formulation, technical expertise, and infrastructure that support digital records preservation in Africa, and subsequently Botswana as a case-study [30] [31].

5. Study Methodology

Research methodology refers to the systematic approach a researcher follows to solve a research problem. A research design or structure is needed before data

collection and analysis can begin [32]. A research design is defined as "the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data" [32].

The choice of research design depends on the nature of the problem under study [33]. A qualitative approach in the form of deductive thematic analysis was used for this study. The researcher conducted a Systematic Literature Review (SLR) using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method. Pertinent literature was identified by means of key terms, and data were collected and analysed through qualitative thematic analysis. A literature search was conducted by means of academic research search engines and databases, such as Google Scholar, ScienceDirect, and EBSCOhost. Literature was thoroughly analysed through thematic analysis. To collect relevant data, the researcher selected materials in line with the study objectives using search keywords such as "digital records preservation in Botswana", "records preservation in Botswana", "strategies for digital records preservation", "legislative frameworks for digital records preservation in Botswana", and "e-government in Botswana". These keywords helped the researcher identify relevant information sources regarding digital records preservation and strategies used to preserve digital records in Botswana's public sector.

In the literature search process, the researcher used the PRISMA flowchart, adapted from [34]. A five-step process was followed for the review. The five steps were as follows: defining inclusion and exclusion criteria, identifying data sources and search strategies, assessing the quality of resources, extracting relevant materials from the search outcomes, and synthesising and presenting the findings.

During the first step of the review, the researcher identified key requirements an article or a study had to meet to be included in the review, known as inclusion criteria, and the characteristics that disqualified an article or a study from being included in the review, known as exclusion criteria. During the second step, the researcher conducted a comprehensive literature search using a variety of academic electronic databases and search engines, such as EBSCOhost, Google Scholar, and ScienceDirect. These databases were specifically selected for their high-quality, peer-reviewed scholarly content. Specific keywords, such as "digital records preservation in Botswana", "records preservation in Botswana", "digital records preservation strategies", "legislative frameworks for digital records preservation in Botswana", and "e-government in Botswana", were used in the search. Studies published between 2009 and 2024 were considered, resulting in a sizable sample of 6260 records. Following a modified selection procedure that included applying strict inclusion and exclusion criteria, 15 publications were selected for further analysis.

During the third step, the researcher conducted a quality assessment of the publications to ensure the SLR yields valid, accurate, and reliable information. According to [35], conducting a quality assessment, in conjunction with establishing clear inclusion and exclusion criteria, is an essential component of a systematic

review. The aim of this assessment was to identify the most relevant articles or studies regarding digital records preservation in Botswana, records preservation in Botswana, strategies for digital records preservation, legislative frameworks for digital records preservation in Botswana, and e-government in Botswana, in order to pinpoint pertinent information sources regarding digital records preservation and strategies used to preserve digital records in Botswana's public sector.

Figure 1 below shows the process the researcher followed in conducting the SLR.

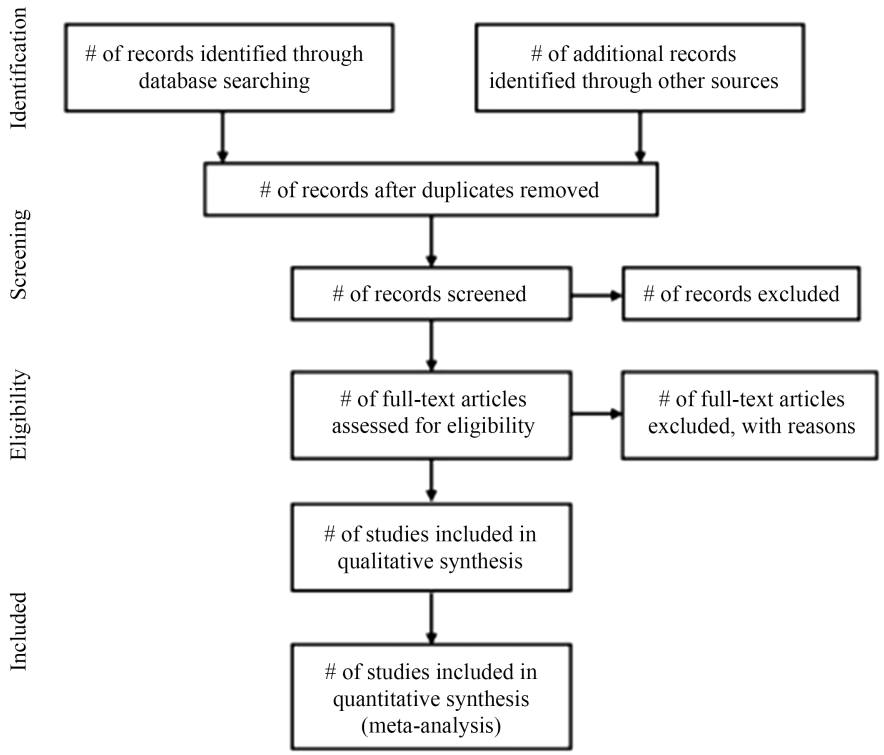

Figure 1. Flow of information through the different phases of a systematic review [34].

Figure 1 illustrates a systematic and organised procedure designed to minimise bias, to improve transparency, and to guarantee replicability. Throughout this process, information progresses from raw study data to synthesised findings.

Specifically, the study used the PRISMA method by conducting a comprehensive literature search across multiple electronic databases (Google Scholar, ScienceDirect, and EBSCOhost) using predefined keywords and Boolean operators tailored to the research question. The search strategy included the use of topic keywords as well as synonyms and related concepts. This search yielded a total of 6260 records. The removal of duplicates followed whereby all retrieved records were exported into reference management software (e.g., EndNote and Mendeley) for deduplication. These duplicate records were identified using automated duplicate detection tools and supported by manual verification by the researcher to confirm true duplicates. The duplicates amounted to 1480 articles, and after re-

moving all the 1480 duplicates, the number of the remaining articles was still a high 4780 articles. Now, the researcher followed this by adopting the inclusion criteria that allowed studies to be retained if they directly addressed the research topic, were published in peer-reviewed journals, were written in English and specifically fell within the specified publication date range between 2009 and 2024. Furthermore, the study conducted an exclusion criterion whereby studies were excluded if they were clearly unrelated to the research question or were non-English publications. Therefore, following this exclusion criterion screening process. The study had a total of 4380 records excluded and only remaining for full-text assessment with 400 studies. This was followed by the researcher conducting a full-text eligibility assessment of the 400 studies that were retrieved and evaluated independently by using a more detailed set of inclusion and exclusion criteria. A further screening and detailed exclusion criteria were adopted and used to filter articles and studies for analysis. This exclusion criteria at a full-text stage involved studies that the exclusion criteria were excluded for irrelevant outcomes ($n \approx 120$) did not measure key variables of interest, inappropriate study design ($n \approx 95$) case reports, protocols, non-empirical papers, followed by insufficient methodological detail ($n \approx 60$) missing data or unclear procedures, study context mismatch ($n \approx 50$) did not match target demographic or context, duplicate publications/data overlap ($n \approx 30$) multiple reports from same dataset, low methodological quality based on appraisal tools ($n \approx 30$) high risk of bias or incomplete reporting and therefore a total excluded at this stage was 385 studies therefore for the final Inclusion onto the study after rigorous eligibility assessment and quality appraisal only 15 studies met all inclusion criteria and were included in the final systematic review and synthesis.

6. Study Findings and Discussions

This section presents the findings of the study under the following themes, in keeping with the objectives of the study: the legislative framework for digital records preservation and strategies for digital records preservation.

6.1. Botswana's Legislative Framework for Digital Records Preservation

The management of digital records needs to be guided by legislation to ensure the provision of reliable and accurate information. [11] highlight that many African countries lack policies or legislation to regulate the management of records and information. In addition, legislators in Africa are often either unaware of or unfamiliar with the requirements of digital records preservation and consequently ignore or fail to pay adequate attention to issues related to digital preservation. [36] found that Botswana has weak policy enactments on digitisation at both the institutional and national levels, as well as a weak legislative framework for digital records preservation. Similarly, [37], in his study on the preservation of audiovisual archives, found that Botswana's management of audiovisual archives is inade-

quate, mainly due to a weak legislative framework. Several studies point to challenges regarding digital records preservation in Botswana that are caused by a lack of policies, procedures, and regulatory frameworks, despite the existence of the National Archives and Records Services (NARS) Act of 2007. This Act alone is insufficient to provide national guidance on the overall management and preservation of digital records [26] [38]-[42].

[38] notes that the NARS Act, which governs documentary heritage, archives, and records in Botswana, does not comprehensively address the digital aspects of archives and records since it merely defines digital records without providing guidelines for their management or preservation. Similarly, [26] observes that while the NARS Act grants the Director of the National Archives and Records Services certain powers and privileges regarding the preservation of the national documentary heritage, it is inadequate because it does not contain a section dedicated to the preservation of digital records. [13] observed that the current legislation although existing has limitations in providing guidance for digital records preservation and specifically the case of attempts to preserve social media records is conspicuously lacking, although the government of Botswana's social media use is prevalent.

6.2. Strategies for Digital Records Preservation

To ensure the availability of digital records upon request, records management personnel should use suitable and effective methods for the preservation of digital records. [43] points out that adopting digital preservation strategies is a prerequisite for sustained access to digital information. Various approaches are available for the preservation of digital records, yet this study found that Botswana lacks implemented strategies for digital records preservation. This is primarily due to the absence of appropriate legislation on digital records preservation to guide records management professionals on best practices. Several scholars have noted that there is no legislation or policy that specifically addresses digital archives and records and, most importantly, the preservation of digital information resources [26] [36] [38] [42].

Accordingly, [40] argued that Botswana government ministries lacked written preservation policies. In their study, [40] further pointed out that there is a lack of digital preservation strategy, and expressed a need for the strategy to be developed, which should incorporate the issue of digital continuity so that digital records survive technical obsolescence and losses to make them accessible to those needing them. The strategy should take into consideration the policy, standards and infrastructure. [2] reiterates these assertions on legislation and policies by other scholars that Botswana lacks a national policy framework on digital material preservation, lacks relevant legislation on ICTs, especially on digital material preservation, and continues to lament that the country lacks clearly defined institutional responsibility for digital material preservation and has human resources challenges in terms of knowledge, skills and competencies to drive digital material

preservation.

7. Conclusion and Recommendations

The preservation of digital records in Botswana is crucial in light of the increasing adoption and use of technology in records management. However, this study highlights significant shortcomings in respect of digital records preservation in Botswana's public sector, most notably the absence of a comprehensive regulatory framework and structured digital records preservation strategies. These shortcomings place digital records at risk of degradation, loss, or inaccessibility over time. The surge in technology adoption in the public sector calls for the implementation of proactive measures anchored in legal and strategic frameworks to govern the preservation of digital records, thereby ensuring their long-term sustainability.

Based on the findings of the study, the following recommendations are made:

1) Developing a comprehensive legislative framework: The government of Botswana and relevant stakeholders must prioritise the creation of a robust legal framework that focuses on the preservation of digital records. This framework should provide clear guidelines on the preservation of digital records and information resources, including their long-term retention, while ensuring compliance with international standards and regulations.

2) Developing and adopting digital records preservation strategies: The study revealed a lack of digital records preservation strategies in Botswana's public sector, particularly the absence of a comprehensive regulatory framework. Public sector organisations in Botswana should adopt digital preservation strategies that are specifically suited to their needs and capacity. The strategies should be flexible, scalable, and aligned with the organisations' resources and technological infrastructure, thus ensuring sustainability and effective implementation.

3) Investing in resources and infrastructure: Sufficient funding should be allocated to electronic records management programmes to ensure the effective implementation of digital preservation strategies. This funding includes investments in the right tools, software, and training to facilitate the preservation of digital records. Resource allocation should be targeted at acquiring the necessary infrastructure and integrating the appropriate tools and media software into existing business operations to support the preservation of digital records [29].

In conclusion, addressing the challenges related to digital records preservation in Botswana requires a concerted effort by all stakeholders to establish a strong legislative framework, implement appropriate preservation strategies, and allocate the necessary resources. These actions will ensure that digital records are effectively preserved for future accessibility, security, and usability.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] Samiei, M. (2020) Digital Preservation: Concepts and Strategies. *Journal of Advanced Pharmacy Education and Research*, **10**, 127-135.

[2] Kalusopa, T. (2018) Preservation and Access to Digital Materials. In: Ngulube, P., Ed., *Handbook of Research on Heritage Management and Preservation*, IGI Global, 150-174. https://doi.org/10.4018/978-1-5225-3137-1.ch008

[3] Motupu, K. (2015) Assimilation of E-Government Systems at the Ministry of Trade and Industry in Botswana. Master's Thesis, University of Botswana, Gaborone.

[4] Nkohkwo, Q.N.A. and Islam, M.S. (2013) Challenges to the Successful Implementation of E-Government Initiatives in Sub Saharan Africa: A Literature Review. *Electronic Journal of E-Government*, **11**, 253-267.

[5] Egwunyenga, B.O. (2009) The Influence of Record Keeping on Administrative Performance of School Administrators. Elites Publishers Ltd

[6] Tsabedze, V.W. (2020) E-Records Readiness in the Context of E-Government Strategy in Eswatini. In: Chisita, C.T., Ed., *Cooperation and Collaboration Initiatives for Libraries and Related Institutions*, IGI Global, 94-129. https://doi.org/10.4018/978-1-7998-0043-9.ch006

[7] Suleman, H. (2011) An African Perspective on Digital Preservation. In: Pal, S.K., Ed., *Statistical Science and Interdisciplinary Research*, World Scientific, 295-306. https://doi.org/10.1142/9789814307260_0016

[8] Harvey, R. (1994) Preservation in Libraries: Principles, Strategies and Practices. Bowker.

[9] Evens, T. and Hauttekeete, L. (2011) Challenges of Digital Preservation for Cultural Heritage Institutions. *Journal of Librarianship and Information Science*, **43**, 157-165. https://doi.org/10.1177/0961000611410585

[10] (2024) About Digital Preservation. Library of Congress. http://www.digitalpreservation.gov/about/

[11] Orim, F.S., Edam-Agbor, I.B. and Olaniyi, O.T. (2019) The Role of Technology in the Preservation of Records in the Digital Age. *Journal of Library, Science Education and Learning Technology*, **1**, 49-61.

[12] Ngoepe, M. and Saurombe, A. (2016) Provisions for Managing and Preserving Records Created in Networked Environments in the Archival Legislative Frameworks of Selected Member States of the Southern African Development Community. *Archives and Manuscripts*, **44**, 24-41. https://doi.org/10.1080/01576895.2015.1136225

[13] Mosweu, O. (2023) Framework for Development of Digital Records Preservation in the Cloud in Botswana. *Journal of the South African Society of Archivists*, **56**, 17-34. https://doi.org/10.4314/jsasa.v56i1.2

[14] Adu, K.K. and Ngulube, P. (2017) Key Threats and Challenges to the Preservation of Digital Records of Public Institutions in Ghana. *Information, Communication & Society*, **20**, 1127-1145. https://doi.org/10.1080/1369118x.2016.1218527

[15] Matlala, M.E. and Ncube, T.R. (2024) Electronic Records Management Amidst the Seismic Shift in the Dynamic Infosphere. *Records Management Journal*, **35**, 59-74. https://doi.org/10.1108/rmj-04-2023-0022

[16] Masekoameng, C.M. (2022) Digital Preservation and Access to the South African Documentary National Heritage at the National Library of South Africa. Master's Thesis, University of Limpopo.

[17] National Archives of Australia (2018) Business Continuity and Disaster Planning.

[18] Tripathi, S. (2018) Digital Preservation: Some Underlying Issues for Long-Term

Preservation. *Library Hi Tech News*, **35**, 8-12.
https://doi.org/10.1108/lhtn-09-2017-0067

[19] Magama, B. (2018) Strategies for Preservation of Digital Records in Masvingo Province of Zimbabwe. *ESARBICA Journal*: *Journal of the Eastern and Southern Africa Regional Branch of the International Council on Archives*, **37**, 18-38.

[20] ISO15489-1:2016(E) (2016) Information and Documentation—Records Management—Part 1: Concepts and Principles.
https://static1.squarespace.com/static/5a1c710fbce17620f861bf47/t/5a45d41353450a6f05e9b138/1514525716795/ISO%2B15489-1-2016.pdf

[21] Mubofu, C., Mambo, H. and Samzugi, A. (2022) Preservation Practices for Information Resources in Public University Libraries in Tanzania. *Restaurator. International Journal for the Preservation of Library and Archival Material*, **43**, 199-218.
https://doi.org/10.1515/res-2022-0014

[22] Formenton, D. and Gracioso, L.D.S. (2023) Digital Preservation Challenges, Requirements, Strategies and Scientific Output. *RDBCI*: *Revista Digital de Biblioteconomia e Ciência da Informação*, **18,** e020012.

[23] Lee, K.H., Slattery, O., Lu, R., Tang, X. and McCrary, V. (2002) The State of the Art and Practice in Digital Preservation. *Journal of Research of the National Institute of Standards and Technology*, **107**, 93-106. https://doi.org/10.6028/jres.107.010

[24] Corrado, E.M. (2022) Digital Preservation Is Not Just a Technology Problem. *Technical Services Quarterly*, **39**, 143-151.
https://doi.org/10.1080/07317131.2022.2045432

[25] Najar, J.K. and Wani, J.A. (2019) Digital Preservation: An Overview. Library Philosophy and Practice (E-Journal). https://digitalcommons.unl.edu/libphilprac/2989

[26] Porogo, K.M. (2022) Digital Preservation Regulatory Frameworks for E-Government Infrastructure in Selected Ministries of Botswana. *Journal of the South African Society of Archivists*, **55**, 137-146. https://doi.org/10.4314/jsasa.v55i.10

[27] Segaetsho, T. (2021) The Concoct of Digital Preservation in Open Access: A Case of the University of Botswana Research, Innovation, and Scholarship Archive. In: Jain, P., Mnjama, N. and Oladokun, O., Eds., *Open Access Implications for Sustainable Social, Political, and Economic Development*, IGI Global Scientific Publishing, 118-138.

[28] Ruusalepp, R. (2005) Digital Preservation in Archives: An Overview of Current Research and Practices. Estonian Business Archives.

[29] Matlala, E. (2019) Long-Term Preservation of Digital Records at the University of KwaZulu-Natal Archives. *Journal of the South African society of Archivists*, **52**, 95-109.

[30] Malgwi, P.G., Babatunde, S.O. and Mahmood, Z.U. (2025) Traditional and Digital Preservation Practices in Academic Libraries: Methods, Challenges, and Future Directions. *Communicate*: *Journal of Library and Information Science*, **27**, 487-505.

[31] Ahmad, R., Rafiq, M., Khalil, M.F. and Khalil, M.H. (2025) Global Overview of Digital Preservation Staffing and Skills: A Systematic Review. *Information Development*.
https://doi.org/10.1177/02666669251354893

[32] Kothari, C.R. (2004) Research Methodology. 2nd Edition, New Age International (P) Limited.

[33] Aina, L.O. (2002) Research in Information Sciences: An African Perspective. Stirling-Horden Publishers.

[34] Moher, D., Liberati, A., Tetzlaff, J. and Altman, D.G. (2010) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Interna-*

tional Journal of Surgery, **8**, 336-341. https://doi.org/10.1016/j.ijsu.2010.02.007

[35] Ocks, Y. and Salubi, O.G. (2024) Privacy Paradox in Industry 4.0: A Review of Library Information Services and Data Protection. *South African Journal of Information Management*, **26**, 1-11. https://doi.org/10.4102/sajim.v26i1.1845

[36] Kalusopa, T. and Zulu, S. (2009) Digital Heritage Material Preservation in Botswana: Problems and Prospects. *Collection Building*, **28**, 98-107. https://doi.org/10.1108/01604950910971125

[37] Mnjama, N. (2010) Preservation and Management of Audiovisual Archives in Botswana. *African Journal of Library, Archives and Information Science*, **10**, 139-148.

[38] Mosweu, T. and Simon, I. (2018) The Implications of the National Archives and Records Services Act on Archival Practice in Botswana. *Journal of the South African Society of Archivists*, **51**, 70-96.

[39] Mnjama, N.M. (2019) Preservation of Recorded Information in Public and Private Sector Organizations. In: Information Resources Management Association, Eds., *Digital Curation*: *Breakthroughs in Research and Practice*, IGI Global, 349-367. https://doi.org/10.4018/978-1-5225-6921-3.ch016

[40] Porogo, K.M. and Kalusopa, T. (2021) A Strategic Framework for Digital Preservation in the Context of E-Government in Botswana Public Service. *Journal of the South African Society of Archivists*, **54**, 83-101. https://doi.org/10.4314/jsasa.v54i1.7

[41] Mosweu, O. and Bwalya, K.J. (2022) The Challenges of Post Custodial Management of Digital Records in Botswana Laid Bare. *Information Development*, **40**, 266-281. https://doi.org/10.1177/02666669221114867

[42] Motlhasedi, N. and Mosweu, O. (2020) Policy and Legal Framework for Digital Archives Curation. *ESARBICA Journal*: *Journal of the Eastern and Southern Africa Regional Branch of the International Council on Archives*, **39**, 1-14. https://doi.org/10.4314/esarjo.v39i1.1

[43] Wright, R. (2012) Preserving Moving Pictures and Sound: DPC Technology Watch Report 12-01 March 2012. The Digital Preservation Coalition. https://www.dpconline.org/docs/technology-watch-reports/753-dpctw12-01-pdf/file