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*Article*

# Assessing Document Management Practices and Challenges in Zambian Academic Libraries: A Pilot Study

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**Abstract:** This pilot study assesses Zambian academic libraries' document management practices and challenges. It investigates the effectiveness of current practices, identifies challenges faced by these libraries, explores the preferences of academic library professionals regarding document management systems, and provides recommendations for improvement. A cross-sectional research design was employed, utilising a quantitative approach. Data was collected from 22 Zambian academic library professionals through a comprehensive questionnaire. The data was processed and analysed using statistical methods, including means and standard deviations, to evaluate document management practices and challenges. The study reveals that Zambian academic libraries effectively organise documents (mean score: 4.27) but face challenges, including a need for digitisation support (mean score: 4.18) and increased budget and personnel (mean score: 4.13). Digital repositories are commonly used, but integration with other library tools and accessibility for disabled users need improvement. This pilot study provides valuable insights into document management practices and challenges specific to Zambian academic libraries. It is a foundation for enhancing document management strategies in these libraries, potentially leading to increased efficiency and improved user experiences. The study also offers a model for similar investigations in other regions, promoting collaborative efforts to enhance document management in academic libraries globally.

**Keywords:** academic libraries zambia; document management; archival management; preservation; library document organization; challenges in document management

## Introduction

Academic libraries are cornerstone institutions within the educational landscape, facilitating knowledge dissemination, research, and education (Hickerson et al., 2022). A key aspect of their functioning revolves around document management, encompassing the cataloguing, organisation, preservation, and accessibility of a vast array of digital and physical resources (Hamad et al., 2021; Korro Bañuelos et al., 2021). The effectiveness of document management practices directly influences academic libraries' efficiency and user experience (Basil Iwhiwhu, 2005).

In the digital era, academic libraries are confronted with a dynamic landscape of document management challenges, including the digitisation of historical records, the integration of new technologies, and the continuous expansion of digital resources. The preferences and needs of academic library professionals regarding document management systems and software are pivotal in shaping how these challenges are addressed (Bisht et al., 2023; Jain, 2013; McLeod & Hare, 2010).

This study comprehensively assesses document management practices and challenges within Zambian academic libraries. Furthermore, it seeks to determine the preferences of academic library

professionals, aiming to bridge the gap between existing practices and their expectations. This research aims to enhance document management in Zambian academic libraries by addressing these aspects, ultimately benefiting students, researchers, and educators.

### *Background*

Academic libraries serve as vital knowledge repositories that support teaching, learning, and research activities within educational institutions (Cox, 2021). In the digital age, academic libraries face evolving challenges in managing an ever-expanding array of digital and physical documents, ranging from scholarly publications and historical archives to multimedia resources. Moreover, the preferences of academic library professionals regarding document management systems and software can significantly impact the efficiency and effectiveness of library operations (Mannheimer et al., 2019; Mehta & Wang, 2020; Rafiq et al., 2021).

Understanding the current state of document management practices and the challenges faced by academic libraries, particularly in the Zambian context, is essential. Additionally, exploring the preferences of library professionals can inform decisions regarding adopting and improving document management systems. This study aims to assess these aspects comprehensively within Zambian academic libraries.

### *Significance*

The significance of this study lies in its potential to address critical issues related to document management practices and challenges faced by Zambian academic libraries. By gaining insights into the effectiveness of current practices and the challenges encountered, academic institutions and library administrators can make informed decisions to enhance their document management strategies.

Furthermore, understanding the preferences of academic library professionals regarding document management systems and software can lead to more tailored solutions that meet the specific needs of these professionals. This can lead to increased efficiency, improved user experiences, and enhanced access to academic resources.

Ultimately, the findings of this study can contribute to the advancement of document management practices within Zambian academic libraries, aligning them with international standards and best practices. The study can also serve as a model for similar investigations in other regions, fostering a collaborative approach to global document management enhancement in academic libraries.

### *Research Gap*

While academic libraries play a fundamental role in supporting education and research, particularly in the Zambian context, there needs to be more research regarding the assessment of document management practices and challenges specific to these institutions (Saib et al., 2022; UNESCO, 2018). The existing literature on document management primarily focuses on international practices and may not adequately address the unique circumstances faced by Zambian academic libraries. Furthermore, while the study of document management practices is essential, there needs to be more exploration of the preferences and expectations of academic library professionals regarding document management systems and software. This gap is significant because adopting and utilising such systems directly impacts the efficiency and effectiveness of library operations and the services provided to users (Asogwa, 2012; Masenya, 2020; Mojapelo, 2021; Mosweu et al., 2019; Tintswalo et al., 2022; Wamukoya & Mutula, 2005).

The specific research gap is that existing studies primarily examine global document management practices and challenges in academic libraries, with limited research focusing on the Zambian context. There is a need for research that considers the unique challenges and solutions relevant to Zambian academic libraries. While document management systems and software are

critical tools for library professionals, there needs to be more research exploring Zambian academic library professionals' preferences, needs, and expectations concerning these systems. Understanding their perspectives is vital for tailoring document management solutions to their requirements.

By addressing these research gaps, this study aims to contribute valuable insights that can inform the enhancement of document management practices, the resolution of challenges, and the optimisation of systems and software in Zambian academic libraries.

### *Study Objectives*

- To assess the effectiveness of document management practices in Zambian academic libraries.
- To identify challenges faced by Zambian academic libraries in document management.
- To determine the preferences of academic library professionals regarding document management systems and software.
- To provide recommendations for improving document management practices in Zambian academic libraries.

### *Review of Literature*

Information access is key to national development. Generally, custodians of this information, such as libraries, archives, museums, records centres, etc., need an effective and efficient way of organising and managing these documents to facilitate easy access and retrieval. There are many practices adopted for managing documents in academic libraries.

### *Document Management Practices in Academic Libraries*

Information is the currency for competitiveness and instant growth in this knowledge-driven economy. Academic libraries and the Centre for Information Provision are adopting different practices for document management to provide information to the right users promptly. With a notable shift in technological advancement, libraries experienced a massive change from web-based access to the use of library catalogues. This set a trend in the shift to supporting digital delivery and management of content (Bracke et al., 2023).

Documents that support learning, teaching and research are made available through sharing catalogues via OCLC. This indicates that most academic libraries digitise their collections to easily manage and disseminate documents to users (Jain, 2013). Adopting library systems has ensured confidentiality and accessibility resulting from proper classification, labelling and indexing in providing evidence documents in business and academic activities (Bigirimana et al., 2015, 2016).

A study by Jain (2013) aimed at assessing knowledge management in academic libraries and information centres in SADC countries showed that different practices were utilised to improve library services and productivity, avoid duplication, and leverage existing information. Many libraries are reaping the benefits of ICTs through the utilisation of document management processes such as MARC, Institutional Repositories (IRs) and OpenURL, which link searches, library staff tools and resource management systems (Bracke et al., 2023; Ditimi & Ayanda, 2013; Lou et al., 2020)

### *Challenges in Document Management*

Documents in libraries are managed to allow the creation of access, storage, and reuse. Constant environmental change due to Information Technology (IT) has brought challenges (Wong & Chan, 2018). The transformational changes from information-seeking to online searching present the need for many libraries to adopt web-based document management. This is a challenge in libraries which are lowly funded (Bracke et al., 2023). Lack of skills, competence, and guidelines among librarians have also affected libraries in rendering document access to users (Mamun & Muhammad, 2015).

A study by Adams et al. (2020) on collection management challenges by analysing staff and space showed that participants from Siena College, Rockhurst University and Sam Houston State University faced challenges in analysing data in the documents and managing the workflows.

Muthana and Sang (2019) add that some of the challenges libraries face in document management are universal. The authors note that despite many transformational changes, challenges such as poor policies, outdated sources, and inadequate funding are still a milestone to be attained both in developed and developing countries. Accordingly, Ashiq et al. (2021) examined future challenges and the emerging role of libraries in Pakistan; the findings revealed that technical modalities, leadership crises, and changes in human behaviour were anticipated challenges.

#### *Preferences for Document Management Systems*

There are many document management systems adopted in libraries across the world today. The systems are either commercial or free and open source; therefore, the financial investment in academic libraries determines the preferences. Samuels and Griffy (2012) add that the possibility of these digital systems on documents relies entirely on the type of software chosen for the initiative.

A study conducted by Bwalya et al. (2019) on adopting and using free and open source systems globally revealed that libraries in many countries prefer free and open source systems as they cost less than commercial systems. The study further showed that free and open-source policy formulation and implementation for these systems were received differently. Even in the 20<sup>th</sup> century, free text systems were preferred over commercial ones. For instance, the ELINOR electronic system used for document retrieval was integrated by De Montfort University in 1993, and it contained over 35000 content, which assisted users in teaching and learning. This system further allowed the print control subsystem to be developed for copyright management (Zhao, 1994, 1995).

#### *Recommendations in Document Management*

The excitement towards data links due to library document management systems will, without a doubt, be supported by free and open-source systems and commercial software (Bracke et al., 2023). Accordingly, these systems require library institutions to equip professionals with new skills and competencies through capacity building. The skills and competencies vary but can be categorised in different departments at different levels (Mutula et al., 2005).

Iwhiwhu (2005) adds that in the face of open and free source software tailored for document management, there is a need for suitable policies in handling the systems. Most, if not all, open and free source software can be tailored to suit the needs of a library. Therefore, a policy is inevitable as it provides a restriction policy for information protection and management. Bwalya et al. (2019) recommend initiating projects to foster free and open-source software, especially for countries facing challenges of funds. Further, the authors stress the need to raise awareness about free and open-source systems used for document management.

## **Methods**

### *Study Design*

This study adopts a cross-sectional research design to assess Zambian academic libraries' document management practices and challenges. A quantitative approach is used to collect and analyse data from a sample of library professionals.

### *Participants*

The study involved Zambian academic library professionals from various universities and educational institutions. These participants were selected due to their expertise and firsthand experience in library document management.

### *Questionnaire Design and Development*

A comprehensive self-evaluated questionnaire was carefully designed to collect data on various aspects of document management within academic libraries. The questionnaire allowed participants to express their perspectives on the efficacy of document management practices.

*Sampling and Data Collection*

*Sampling Technique:* Purposive sampling was employed to select willing academic library professionals as survey participants. The goal was to ensure diversity in terms of institutions represented.

*Sample Size:* A total of 22 participants were included in the study.

*Data Collection Method:* The questionnaire was distributed electronically to the selected participants. Clear instructions for completion were provided along with the questionnaire. Reminder communications were sent to encourage timely participation.

*Data Analysis*

*Data Processing:* The collected data, including responses from the questionnaire, were organised and prepared for analysis.

*Statistical Analysis:* Specialized software, SPSS, was used for statistical analysis. Descriptive statistics, including means and standard deviations (SD), were calculated to summarise participants' perspectives regarding document management practices.

*Demographic Analysis:* Demographic information, such as gender, age, years of experience, level of study, and current role, was analysed to provide context for the study findings.

*Results Presentation*

The study results were presented in tables to provide a clear and concise overview of the findings. These tables included:

- Table 1: Demographic Profile of Library and Information Science (LIS) Respondents
- Table 2: Types of Documents Commonly Managed in Library
- Table 3: Methods for Cataloging and Organizing Physical Documents in Library
- Table 4: Software and Systems for Digital Documents Management in Library
- Table 5: Library Document Management Effectiveness Assessment
- Table 6: Assessment of Document Management Challenges in the Library
- Table 7: Primary Methods of Accessing Library Documents

**Results**

Table 1 summarises the demographic profile of respondents in the Library and Information Science (LIS) field. The data reveals that most respondents are female (72.7%), while 27.3% are male. In terms of age distribution, the largest group falls within the 25-34 age range (54.5%), followed by 35-44 (22.7%), and 45-54 (18.2%), with limited representation in the younger and older age groups. In terms of experience in the library field, 45.5% have 3-5 years of experience, while 18.2% each have 6-10 years and 11-15 years of experience. A similar percentage (18.2%) have more than 15 years of experience.

**Table 1.** Demographic Profile of Library and Information Science (LIS) Respondents.

Demography	Items	Respondents	Percentage
Gender	Male	6	27.3
	Female	16	72.7
Age	20-24	1	4.5

	25-34	12	54.5
	35-44	5	22.7
	45-54	4	18.2
	55-64	0	0
	65 or over	0	0
Years of experience (library field)	0-2 years	1	4.5
	3-5 years	10	45.5
	6-10 years	3	13.6
	11-15 years	4	18.2
	More than 15 years	4	18.2
Current level of study	Certificate	0	0
	Diploma	5	22.7
	Undergraduate	11	50
	Graduate (Master's)	6	27.3
	PhD	0	0
Current role	Chief Librarian	0	0
	Librarian	8	36.4
	Deputy Librarian	0	0
	Records Officer/Information Officer	4	18.2
	Assistant Librarian	9	40.9
	Library Assistant	1	4.5

Regarding their current level of study, the majority are either undergraduate (50%) or graduate (27.3%) students, with 22.7% holding a diploma. Finally, in terms of their current roles, the data shows that the largest group are assistant librarians (40.9%), followed by librarians (36.4%) and records officers/information officers (18.2%). Chief and deputy librarians are less represented, and no respondents are currently studying for a PhD or holding a certificate.

Table 2 provides an overview of the types of documents commonly managed in libraries based on responses from 22 participants. The data reveals that books are universally prevalent, with all respondents (100%) reporting their management in libraries. Journals and government documents are also important, managed by 59.1% and 54.5% of respondents. Digital resources, including electronic books and databases, are managed by 50% of respondents, reflecting the increasing role of technology in libraries.

**Table 2.** Types of Documents Commonly Managed in Library.

Document Types in Library	Respondents	Percentage (N=22)
Books	22	100
Journals	13	59.1
Digital Resources	11	50
Archives	4	18.2
Magazines	11	50
Newspapers	8	36.4
Theses and Dissertations	7	31.8
Rare or Special Collections	6	27.3
Audiovisual Materials (e.g., DVDs, CDs, streaming media)	6	27.3
Government Documents	12	54.5

Magazines and newspapers, essential sources of current information, are managed by 50% and 36.4% of respondents, respectively. Theses and dissertations, valuable for academic research, are handled by 31.8% of participants. Rare or special collections, which often house unique and historically significant materials, are curated by 27.3% of respondents, as are audiovisual materials like DVDs and streaming media.

This data underscores the evolving nature of libraries, blending traditional collections with digital resources to meet the diverse needs of library users. It highlights the diverse materials that libraries must manage to serve their communities effectively, from timeless books to cutting-edge digital content and unique archival materials.

Table 3 details cataloguing and organisation methods for physical documents in libraries. The Dewey Decimal Classification system is prominently favoured by 81.8% of respondents. At the same time, none reported using alternatives such as the Library of Congress Classification or specialised systems like UDC or NLM. In-house developed systems, custom taxonomies, and hybrid approaches are notably absent. A small percentage (9.1%) organise materials alphabetically or chronologically, primarily for historical collections. There is minimal use of genre-based or donor-specific classifications. This data illustrates a strong reliance on Dewey Decimal Classification as the primary organisational method, with limited diversification in cataloguing approaches among the surveyed libraries.

**Table 3.** Methods for Cataloging and Organizing Physical Documents in Library.

Library Document Cataloging Methods	Respondent s	Percentage
Dewey Decimal Classification	18	81.8
Library of Congress Classification	0	0
Universal Decimal Classification (UDC)	0	0
National Library of Medicine Classification (NLM)	0	0
Bliss Bibliographic Classification (BC2)	0	0
Colon Classification	0	0
Subject Headings and Classification Systems Developed In-House	0	0
Custom Taxonomies or Folksonomies	0	0

Alphabetical by Title or Author	2	9.1
Chronological Organization (e.g., for historical collections)	2	9.1
Geographic or Regional Classification (e.g., for maps and regional materials)	0	0
Genre or Format-Based Classification (e.g., for graphic novels, comics)	0	0
Specialised Classification for Rare Books or Special Collections	0	0
Donor or Collection-Based Classification (e.g., naming collections after donors)	0	0
Hybrid Classification Systems Combining Various Methods	0	0
None of the above	0	0

Table 4 outlines the digital document management tools and systems used in libraries based on responses from 22 participants. Notably, library management systems like Koha are utilised by 36.4% of respondents, while digital repositories, such as DuraSpace DSpace, are the most common choice, adopted by 40.69%. However, it's surprising that 36.4% of respondents do not use any specific system for digital document management, suggesting potential for streamlining and improvement in their practices. Specialised systems like document and archival management are less common, each chosen by around 18.2% and 9.1% of respondents, respectively. Interestingly, content management systems like WordPress and digital asset management systems like Adobe Experience Manager Assets are not reported in use. Customised solutions are employed by 13.6% of participants, indicating adaptability to specific library needs. In summary, this data highlights the diversity in digital document management approaches in libraries, showcasing the prevalence of digital repositories and the scope for optimising practices among respondents who do not use specific systems.

**Table 4.** Software and Systems for Digital Document Management in Library.

Digital Document Management Tools	Respondents	Percentage (N=22)
Library Management System (e.g. Koha)	8	36.4
Content Management System (e.g. WordPress)	0	0
Digital Repository (e.g. DuraSpace DSpace)	9	40.69
Document Management System (DMS) (e.g. Microsoft SharePoint)	4	18.2
Archival Management System (e.g. ArchivesSpace)	2	9.1
Open Access Publishing Platforms (e.g. OJS (Open Journal Systems))	1	4.5
Digital Asset Management (DAM) System (e.g. Adobe Experience Manager (AEM) Assets)	0	0
Electronic Resource Management (ERM) System (e.g. EBSCO ERM Essentials)	0	0
Records Management System (e.g. IBM Enterprise Records)	0	0
Library Discovery Service (e.g. EBSCO Discovery Service (EDS))	0	0
Customised Solutions	3	13.6

Did not used	8	36.4
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Table 5 assesses the effectiveness of various document management practices within libraries. Respondents provided ratings on different aspects, and the table presents the mean scores and standard deviations, indicating the consensus and variation in their opinions.

**Table 5.** Library Document Management Effectiveness Assessment.

Assessment of Library Document Management Practices	Mean	SD
The library effectively organises and catalogues documents for easy retrieval.	4.27	1.07
The library maintains an up-to-date digital repository of documents.	2.72	1.38
Library staff are knowledgeable about document management best practices.	3.68	1.15
Document preservation and archival practices in the library meet industry standards.	3.36	1.10
The library's document search functionality is efficient and accurate.	3.36	1.13
The library actively monitors and manages document access permissions and security.	2.81	1.32
The library regularly updates its document management policies and procedures.	2.31	1.22
Library staff are responsive to user requests for document retrieval and assistance.	4.04	1.13
The library offers users training and support to navigate document management systems effectively.	2.68	1.20
The library utilises advanced search and indexing technology to enhance document discoverability.	2.13	1.14

Overall, respondents find that libraries effectively organise and catalogue documents for easy retrieval, with a mean score of 4.27, indicating a high level of agreement. They also acknowledge the knowledge of library staff regarding document management best practices, giving it a mean score of 3.68.

However, some areas require attention. Maintaining an up-to-date digital repository receives a lower mean score of 2.72, suggesting room for improvement. The effectiveness of document preservation and archival practices, as well as document search functionality, is perceived moderately, with mean scores of 3.36.

Regarding library operations, the survey indicates that document access permissions and security and the regular updating of document management policies and procedures have room for enhancement, with mean scores of 2.81 and 2.31, respectively.

Additionally, the library's provision of user training and support for document management systems receives a moderate rating, with a mean score of 2.68. The utilisation of advanced search and indexing technology is rated the lowest, with a mean score of 2.13.

While libraries excel in some aspects of document management, such as organisation and staff knowledge, there are areas like digital repository maintenance, security, policy updates, and technology adoption where improvements could enhance overall effectiveness.

Table 6 shows the assessment of document management challenges in the library, and reveals several key findings. The most pressing issue is the need for assistance in digitising paper documents and historical records, with a mean score of 4.18, indicating a strong demand for improvement in this area. Ensuring consistency in document metadata, such as keywords and descriptions, is another

significant challenge, scoring 3.86 on average. Additionally, the library requires more budget and personnel (mean: 4.13) to enhance document management effectively.

**Table 6.** Assessment of Document Management Challenges in the Library.

Challenges in Library Document Management	Mean	SD
The library needs help in digitising paper documents and historical records.	4.18	1.12
Document metadata, such as keywords and descriptions, must be more consistent.	3.86	1.14
The library needs more budget and personnel for effective document management.	4.13	1.11
Outdated software and hardware hinder efficient document storage and retrieval.	3.95	1.23
Library users require more training in navigating and using document management systems.	3.68	1.24
Document management systems do not integrate seamlessly with other library tools.	3.59	1.27
Accessibility for users with disabilities is not adequately addressed in document management.	3.09	1.26
Meeting legal and regulatory requirements for document storage and access poses challenges.	2.04	1.27
Deciding when to retain or dispose of documents presents difficulties for the library.	3.13	1.26
Migrating data between document management systems is complex and error-prone.	3.13	1.29

Outdated software and hardware hinder efficient document storage and retrieval (mean: 3.95), and users require more training in navigating document management systems (mean: 3.68). Document management systems' integration with other library tools (mean: 3.59) and addressing accessibility for disabled users (mean: 3.09) also need improvement.

Meeting legal and regulatory requirements for document storage and access (mean: 2.04) and deciding when to retain or dispose of documents (mean: 3.13) pose challenges but are rated lower in importance. Migrating data between document management systems is complex and error-prone (mean: 3.13), similar in significance to retention decisions.

The top challenges in library document management include digitisation, metadata consistency, and resource allocation. Addressing these issues should be prioritised, while other challenges, such as software and hardware upgrades and user training, also require attention. Challenges related to legal compliance and data migration are perceived as less critical.

Table 7 shows that the primary methods of accessing library documents were assessed, revealing several notable trends. Borrowing physical materials emerged as the most prevalent method, with all 22 respondents (100%) utilising this service. Digital access to library documents was also widely adopted, with 36.4% of respondents indicating its use. On-site reading at the library ranked high, with 95.5% of respondents taking advantage of this option. In contrast, interlibrary loans and book delivery to remote locations saw limited use, with only 4.5% and 0% of respondents relying on these services, respectively.

**Table 7.** Primary Methods of Accessing Library Documents.

Library Document Access Methods	Respondents	Percentage
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Methods of Accessing Library Documents	10	45.5
Borrowing	22	100
Digital Access	8	36.4
On-site Reading	21	95.5
Interlibrary Loan	1	4.5
Document Delivery Services	4	18.2
Reserve Collections (e.g., short-term borrowing for course materials)	8	36.4
Special Collections Access (e.g., by appointment)	0	0
Remote Access to Digital Resources	6	27.3
Self-service kiosks or Terminals	1	4.5
Reference Services (e.g., assistance from librarians)	10	45.5
Document Scanning and Printing Services	7	31.8
Mobile Apps for Library Services	1	4.5
Book Delivery Services (e.g., to remote locations)	0	0
E-book Lending Programs	1	4.5
Collaborative Digital Platforms (e.g., shared online catalogs)	0	0

Reference services, such as seeking assistance from librarians, proved to be a popular choice among 45.5% of respondents. Document scanning and printing services were moderately used (31.8%), while mobile apps for library services and e-book lending programs saw limited adoption at 4.5% each. Collaborative digital platforms and special collections access recorded no usage among respondents.

Traditional methods like borrowing and on-site reading remain the top choices for accessing library materials. Digital access is gaining ground, but a very small portion of library patrons use certain specialised services, such as interlibrary loans and book deliveries to remote locations.

## Discussion

This section provides an in-depth analysis of the document management practices in Zambian academic libraries. It explores the effectiveness of current practices, the challenges faced, and the preferences of academic library professionals in the context of document management.

Findings on the effectiveness of document management practices showed that most participants effectively organised and catalogued documents for easy retrieval. Books recorded the highest to be documented; the management practice system mostly used was the Dewey Decimal Classification. A study conducted by Jain (2013) also found that Academic Libraries and Information Centres in SADC countries employed different practices to improve services and productivity, avoid duplication, and leverage existing information.

Findings on the challenges faced in document management revealed that most academic libraries needed assistance in digitising paper documents and historical records. These findings reveal two perspectives. These refer to a lack of funding to have in place machinery and expertise to digitise paper and historical records, not just books. A study by Ashiq et al. (2021) examining future challenges and the emerging role of libraries in Pakistan showed similar results. The study findings revealed that technical modalities, leadership crises and changes in human behaviour are the anticipated challenges. The findings from this study can relate to those of Ashiq et al. (2021) in that both studies acknowledge needing assistance as a result of technical modalities, and these can be

achieved through proper leadership that is available to lobby for the funds within institutions or outside to tackle the notable challenges.

Findings showed that most respondents utilised Digital Repositories among many available commercial, free, and open-source systems. The results can be necessitated by the fact that the Digital Repository is cost-effective and hence meets the minimal budget of many academic libraries. Thus, the financial investment in academic libraries determines the system preference. A study by Bwalya et al. (2019) on adopting and using free and open-source systems supports these findings. The study revealed that libraries in many countries prefer free and open-source systems as they cost less than commercial systems. The study further showed that free and open-source policy formulation and implementation for these systems were received differently.

## Conclusions

This pilot study on document management practices in Zambian academic libraries highlights several critical recommendations. Firstly, there is a pressing need to prioritise digitising paper documents and historical records backed by adequate funding and expertise. Establishing clear metadata standards and guidelines is essential to ensure uniformity in cataloguing. Advocating for increased budgetary support and staffing resources dedicated to document management is crucial. Regularly assessing and upgrading software and hardware infrastructure is necessary to facilitate efficient document storage and retrieval. Developing comprehensive user training programs will help patrons effectively navigate document management systems. Integrating document management systems seamlessly with other library tools and enhancing accessibility features for disabled users will improve the user experience. Clear policies and procedures are required to meet legal and regulatory document storage and access requirements. Collaboration between libraries, archivists, and records management professionals should guide document retention and disposal decisions. Lastly, providing training and resources for staff members responsible for data migration between document management systems will ensure a smooth transition.

Future research should assess the impact of improved document management practices on academic library user satisfaction, research productivity, and resource utilisation. Comparative studies between Zambian academic libraries and institutions in other regions can identify best practices and innovative solutions. Exploration of emerging technologies like artificial intelligence and blockchain in document management systems is necessary. Understanding user preferences and behaviours will guide the development of user-centric document management systems. Long-term preservation strategies for digital documents, addressing format obsolescence and data integrity, warrant investigation. Collaboration among Zambian academic libraries for resource sharing and best practices should be explored. Enhancing accessibility for disabled users and analysing the economic benefits of efficient document management are vital research areas. Security and data privacy in document management and the environmental sustainability of practices also merits further study.

This pilot study on document management practices and challenges in Zambian academic libraries has shed light on several important aspects of library operations. It is evident that while libraries excel in some areas, such as document organisation and staff knowledge, notable challenges require immediate attention and action. The findings highlight the pressing need for digitisation efforts, metadata consistency, and increased resource allocation to improve document management. Libraries should leverage technology to streamline operations and enhance user experiences, particularly in digital access. Furthermore, addressing legal compliance, data migration, and integrating systems effectively are crucial steps towards achieving best practices in document management.

Zambian academic libraries can make significant strides in document management by heeding these recommendations and addressing the identified challenges. Ultimately, these improvements will benefit library professionals and the broader academic community by facilitating better access to educational and research materials. This study can be a foundation for future research and

collaborative initiatives to elevate document management practices in Zambian academic libraries to international standards.

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