

# Assessing Document Management Practices and Challenges in Zambian Academic Libraries: A Descriptive Survey

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## Assessing Document Management Practices and Challenges in Zambian Academic Libraries: A Descriptive Survey

### 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, utilizing a quantitative approach. Data was collected from 22 Zambian academic library professionals through a comprehensive questionnaire. The data was processed and analyzed using statistical methods, including means and standard deviations, to evaluate document management practices and challenges. The study reveals that Zambian academic libraries effectively organize documents (mean score: 4.27) but face challenges, including a need for digitization 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.

**Key words:** Academic Libraries Zambia, Document Management, Archival Management, Preservation, Library Document Organization, Challenges in Document Management.

## تقييم ممارسات إدارة الوثائق والتحديات في المكتبات الأكاديمية الزامبية: دراسة وصفية

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### الملخص:

تقيم هذه الدراسة الاستكشافية ممارسات وتحديات إدارة الوثائق في المكتبات الأكاديمية بزامبيا وتحدياتها. وتبحث في فعالية الممارسات الحالية، وتحدد التحديات التي تواجهها، وتكشف تفضيلات متخصصي المكتبات الأكاديمية فيما يتعلق بأنظمة إدارة الوثائق، وتقدم توصيات للتحسين. استخدم تصميم بحث عرضي قائم على المنهج كمي حيث جمعت البيانات من عدد 22 متخصصاً في المكتبات الأكاديمية في زامبيا من خلال تطبيق استبيان شامل. تمت معالجة البيانات وتحليلها احصائياً باستخدام المتوسطات والانحرافات المعيارية، لتقييم ممارسات إدارة الوثائق والتحديات التي تواجهها. وقد كشف الدراسة أن المكتبات الأكاديمية في زامبيا تنظم الوثائق بشكل فعال (المتوسط الحسابي: 4.27) ولكنها تواجه تحديات، بما في ذلك الحاجة إلى دعم التحول الرقمي (المتوسط الحسابي: 4.18) وزيادة الميزانية والموظفين (المتوسط: 4.13). وقد أوضحت نتائج الدراسة أيضاً أن المستودعات الرقمية تستخدم بشكل شائع، ولكن التكامل مع أدوات المكتبة الأخرى وإمكانية الوصول للمستخدمين من ذوي الإعاقة بحاجة إلى تحسين. وقد قدمت هذه الدراسة رؤى قيمة حول ممارسات إدارة الوثائق والتحديات الخاصة بالمكتبات الأكاديمية في زامبيا. وتشكل هذه الدراسة أساساً لتعزيز استراتيجيات إدارة المستندات في هذه المكتبات، مما قد يؤدي إلى زيادة الكفاءة وتحسين تجارب المستخدم كما انها تقدم نموذجاً لتحقيق مماثلتها في مناطق أخرى، مما يعزز الجهود التعاونية لتحسين إدارة الوثائق في المكتبات الأكاديمية على مستوى العالم.

الكلمات المفتاحية: المكتبات الأكاديمية في زامبيا، إدارة الوثائق، إدارة الأرشيف، الحفظ، تنظيم وثائق المكتبة، التحديات في إدارة الوثائق

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## Introduction

Document management practices ensure proper organization and preservation and provide access to both print and electronic documents. This is no longer a restricted aspect of practices but cuts across several disciplines, including library science; hence, academic libraries also have a mandate to be involved. Academic libraries, as custodians of knowledge, are increasingly expected to adopt systematic approaches to document management that guarantee efficiency, security, and accessibility. With the exponential growth of information in both digital and print formats, libraries must integrate robust systems that cater to storage, retrieval, and long-term preservation. Effective document management not only supports teaching, learning, and research but also ensures compliance with institutional and national policies regarding information governance.

Academic libraries are cornerstone institutions within the educational landscape, serving as vital hubs for knowledge dissemination, scholarly communication, research support, and lifelong learning (Hickerson et al., 2022). Beyond their traditional role of providing access to information, they increasingly function as innovation centers that ensure systematic management of information resources. Central to this responsibility is document management, which encompasses the cataloguing, organization, preservation, retrieval, and accessibility of both digital and physical resources (Hamad et al., 2021; Korro Bañuelos et al., 2021). The quality and effectiveness of document management practices not only determine the operational efficiency of academic libraries but also have a profound influence on the overall user experience, shaping how students, researchers, and faculty engage with knowledge (Iwhiwhu, 2005).

In today's digital era, academic libraries face an evolving and complex environment of document management challenges. These include the digitization and long-term preservation of historical and rare records, the adoption and integration of emerging technologies, and the continuous expansion of digital collections that demand sustainable storage and retrieval systems. At the same time, libraries must adapt to shifting user expectations for instant access, seamless navigation, and user-friendly platforms. The perceptions, preferences, and professional needs of academic librarians regarding document management systems and software are therefore pivotal in determining how effectively these challenges are addressed (Bisht et al., 2023; Jain, 2013; McLeod & Hare, 2010).

This study undertakes a comprehensive examination of document management practices and the challenges experienced within Zambian academic libraries. It also explores the perspectives and preferences of academic library professionals, with the aim of identifying gaps between current practices and professional expectations. By doing so, the research seeks to contribute to the improvement of document management systems and strategies, ultimately strengthening the capacity of Zambian academic libraries to support students, researchers, and educators more effectively.

## 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 utilizing 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 optimization 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.

### **Document Management Practices in Academic Libraries**

Information is widely recognized as the currency for competitiveness, innovation, and sustainable growth in the current knowledge-driven economy. Academic libraries, as centers for information provision, are therefore adopting diverse practices in document management to ensure timely delivery of information to the right users. The core aim of these practices is to enhance access, improve organization, and strengthen preservation mechanisms to support the teaching, learning, and research mandates of higher education institutions. With rapid technological advancement, libraries have undergone significant transformations, particularly shifting from traditional print-based services to digital and web-based platforms. Early developments such as Online Public Access Catalogues (OPACs) set the foundation for digital service delivery, marking the beginning of a broader trend towards integrating advanced systems for content organization and access (Bracke et al., 2023).

Documents that support academic and scholarly activities are increasingly made available through collaborative platforms such as OCLC shared catalogues. This demonstrates the deliberate effort by many academic libraries to digitize their collections, thereby improving the efficiency of managing, retrieving, and disseminating documents to diverse users (Jain, 2013). The adoption of structured library systems has further reinforced confidentiality and accessibility through rigorous classification, labelling, and indexing procedures, which are essential in providing verifiable evidence for academic, professional, and administrative purposes (Bigirimana et al., 2015, 2016).

A study by Jain (2013), which assessed knowledge management in academic libraries and information centers in SADC countries, revealed that multiple document management practices were being employed to improve service delivery, enhance productivity, reduce duplication, and maximize the value of existing information. Furthermore, libraries have leveraged the opportunities provided by Information and Communication Technologies (ICTs) by adopting processes such as Machine-Readable Cataloguing (MARC), Institutional Repositories (IRs), and OpenURL linking systems, which facilitate seamless integration between user search functions, staff management tools, and resource management systems (Bracke et al., 2023; Ditimi & Ayanda, 2013; Lou et al., 2020). These practices collectively demonstrate the role of document management in driving innovation, strengthening institutional capacity, and sustaining the relevance of academic libraries in the digital era.

### **Challenges in Document Management**

The management of documents in libraries is guided by the need to enable creation, storage, retrieval, and reuse of information resources. However, the rapid pace of environmental changes brought about by Information Technology (IT) has introduced complex challenges for libraries (Wong & Chan, 2018). The transition from manual, information-seeking behaviors to dynamic, online searching platforms has placed enormous pressure on libraries, particularly those with limited financial support, to adopt sustainable web-based document management systems (Bracke et al., 2023).

One major challenge is the lack of adequate skills, competencies, and clear guidelines among library professionals, which undermines their ability to effectively render services and guarantee equitable access to information (Mamun & Muhammad, 2015). Adams et al. (2020), in their study of collection management challenges at Siena College, Rockhurst University, and Sam Houston State University, found that staff faced significant barriers in analyzing document data, streamlining workflows, and managing physical and digital space. Similarly, Muthana and Sang (2019) emphasize that these challenges are not unique to specific regions but are universal, with libraries across the globe struggling with outdated policies, insufficient funding, and a lack of modern infrastructure.

Ashiq et al. (2021) further explored the emerging role of libraries in Pakistan and highlighted additional barriers such as leadership crises, technical inadequacies, and behavioral changes among users. Collectively, these findings illustrate that although libraries have embraced technological advances, systemic barriers continue to hinder effective document management, and addressing them requires a multifaceted approach involving policy reforms, funding strategies, and professional development initiatives.

### **Preferences for Document Management Systems**

Globally, libraries adopt a variety of document management systems, which can either be commercial or free and open-source. The decision regarding which system to adopt is largely influenced by financial investment capacities, institutional priorities, and long-term sustainability goals. Samuels and Griffy (2012) assert that the effectiveness of digital document management depends significantly on the type of software selected, as different systems offer varied levels of functionality, scalability, and integration capabilities.

Bwalya et al. (2019) conducted a comprehensive study on the adoption of free and open-source systems, revealing that many libraries worldwide prefer these systems due to their lower costs compared to commercial alternatives. Their study further showed that while free and open-source systems provide financial relief, policy formulation and implementation regarding their use varies significantly across regions, often affecting adoption outcomes. Historically, the preference for cost-effective systems is not new. For example, in the 1990s, the ELINOR electronic text retrieval system was successfully deployed at De Montfort University, containing over 35,000 documents to support teaching and learning. Importantly, the system integrated copyright management features such as a print control subsystem, demonstrating how document management tools can be customized to meet institutional needs (Zhao, 1994, 1995). These examples highlight the importance of aligning system adoption with institutional goals, financial realities, and user needs.

### **Recommendations in Document Management**

The growing enthusiasm for advanced document management systems reflects the increasing importance of data integration and accessibility in academic libraries. Both free and open-source systems and commercial software are expected to remain central in supporting document workflows (Bracke et al., 2023). However, for these systems to be effective, institutions must invest in equipping library professionals with new skills and competencies through structured capacity-building initiatives. Such competencies span multiple areas, including digital curation, metadata management, data security, and user training, and they can be categorized according to departmental roles and institutional levels (Mutula et al., 2005).

Iwhiwhu (2005) stresses the need for comprehensive policies to guide the adoption and use of open- and free-source software. Policies are essential not only for ensuring consistency but also for safeguarding sensitive information and maintaining compliance with legal and ethical requirements. Since most open-source software can be customized to meet the specific needs of libraries, the absence of clear policies creates risks for information security and system sustainability. To address this, Bwalya et al. (2019) recommend that resource-constrained countries actively initiate projects that promote the adoption of free and open-source software while simultaneously raising awareness of their benefits. By doing so, libraries can expand access, reduce costs, and enhance resilience in the face of financial and technological challenges.

## 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 analyze data from a sample of library professionals.

### Participants

The study involved Zambian academic library professionals (22) from various universities and educational institutions out of a total population of 100. These participants were selected using Slovin's formula and 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. Beforehand, the questionnaire was piloted with a small group of participants, and the feedback was used to adjust and align the tool.

### 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 organized 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 summarize participants' perspectives regarding document management practices.

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

## Results

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

Table 1 summarizes 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.

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. 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

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.

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. Methods for Cataloging and Organizing Physical Documents in Library

Library Document Cataloging Methods	Respondents	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 3 details cataloging and organization methods for physical documents in libraries. The Dewey Decimal Classification system is prominently favored by 81.8% of respondents. At the same time, none reported using alternatives such as the Library of Congress Classification or specialized systems like UDC or NLM. In-house developed systems, custom taxonomies, and hybrid approaches are notably absent. A small percentage (9.1%) organize 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 organizational method, with limited diversification in cataloging approaches among the surveyed libraries.

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

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 utilized 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. Specialized 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. Customized 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 optimizing practices among respondents who do not use specific systems.

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

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.

Overall, respondents find that libraries effectively organize and catalog 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 utilization 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 organization and staff knowledge, there are areas like digital repository maintenance, security, policy updates, and technology adoption where improvements could enhance overall effectiveness.

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

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 digitizing 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.

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 digitization, metadata consistency, and resource allocation. Addressing these issues should be prioritized, 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. Primary Methods of Accessing Library Documents

Library Document Access Methods	Respondent s	Percentag e
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

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%) utilizing 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.

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 specialized 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 organized and catalogued documents for easy retrieval. Books were recorded as 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 centers 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 digitizing 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 digitize 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 behavior 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 utilized 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.

## Conclusion

This pilot study on document management practices in Zambian academic libraries highlights several critical recommendations. Firstly, there is a pressing need to prioritize digitizing paper documents and historical records backed by adequate funding and expertise. Establishing clear metadata standards and guidelines is essential to

ensure uniformity in cataloging. 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 utilization. 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 behaviors 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 analyzing 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 merit 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 organization and staff knowledge, notable challenges require immediate attention and action. The findings highlight the pressing need for digitization 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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