

MAKERERE



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**MODERN PRESERVATION STRATEGIES IN BROADCAST LIBRARIES: A CASE
STUDY OF NATION MEDIA GROUP UGANDA**

BY

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**A DISSERTATION SUBMITTED TO THE EAST AFRICAN SCHOOL OF LIBRARY
AND INFORMATION SCIENCE IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF A MASTER OF SCIENCE IN
INFORMATION SCIENCE OF MAKERERE UNIVERSITY**

SEPTEMBER, 2026

DECLARATION

I, **GLORIA ANNA MPUMBYA**, Reg No: **2009/HD05/15018U** do hereby declare that this dissertation entitled, '**Modern Preservation Strategies in Broadcast Libraries: A Case Study of Nation Media Group Uganda**', is my original work and to the best of my knowledge, it has never been submitted for any degree in any university or Institution of Higher Learning.

Date:

Signature:

STATEMENT OF ORIGINALITY

The conception, research, organization and writing of this dissertation, ' **Modern Preservation Strategies in Broadcast Libraries: A Case Study of Nation Media Group Uganda** ' are entirely the work of **Gloria Anna Mpumbya**. All citations have duly been acknowledged.

This study was conducted at in Kampala under the supervision of Dr. Lutaaya Clement Nabutto.

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APPROVAL

This is to certify that this dissertation entitled: ‘**Modern Preservation Strategies in Broadcast Libraries: A Case Study of Nation Media Group Uganda**’ by *Gloria Anna Mpumbya* was conducted under my supervision and is ready for submission for examination for the award of a Master of Science in Information Science of Makerere University.

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Signature:

DEDICATION

To the Divine providence of God, Jesus and the intercession of the blessed mother Mary, for infinite guidance and love; to my late father, Kabigyema Silver, may your memory continue to inspire me. To my loving husband and daughters (the Omasets), your love and support means the world to me. And to my friends Samalie, Emma, Lois, Francis and Ssentuwa, your unwavering support has been a constant source of strength. Thank you for being part of my journey.

ACKNOWLEDGEMENTS

I would like to extend my sincere gratitude to my Supervisor, Dr. Lutaaya Clement Nabutto, for her expert guidance, support and patience through this research journey. I also thank the participants who generously shared their time and insights making this research possible; my colleagues and friends who offered valuable feedback, encouragement and assistance; and Makerere University, in particular the College of Computing and Information sciences, for providing the necessary resources and infrastructure.

TABLE OF CONTENTS

DECLARATION	i
STATEMENT OF ORIGINALITY	ii
APPROVAL	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
LIST OF ABBREVIATIONS	xi
ABSTRACT	xii

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Background to the study	1
1.1.1 Background to the Nation Media Group (NMG) Uganda	4
1.1.2 Libraries within the Nation Media Group	4
1.2 Problem Statement	5
1.3 Aim of the Study	6
1.4 Research Objectives	6
1.5 Research Questions	6
1.6 Significance of the Study	6
1.7 Conceptual Framework	7
1.8 Scope of the Study	9
1.8.1 Content Scope	9
1.8.2 Time Scope	9
1.8.3 Geographical Scope	9
1.9 Definition of Key Operational Terms	9

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction	11
2.2 Theoretical Framework	11
2.3 Type of Information Preserved in Broadcast Libraries	15

2.5 Challenges Faced in Information Preservation in Broadcast Libraries	22
2.6 Ways to Enhance Information Preservation in Broadcast Libraries	25
2.7 Research Gap.....	28

CHAPTER THREE: METHODOLOGY

3.1 Introduction	30
3.2 Research Design	30
3.3 Research Approach	30
3.4 Area of the Study.....	31
3.5 Population of the Study	31
3.6 Sampling Strategy	33
3.7 Data collection methods	34
3.7.1 Structured Interviews.....	34
3.7.2 Questionnaires	35
3.8 Data Quality Control	35
3.9 Data Analysis and Presentation.....	36
3.10 Ethical Considerations.....	37
3.11 Limitations and de-limitations of the Study	37

CHAPTER FOUR: PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction	39
4.2 Response Rate	39
4.3 Biographic Information	40
4.4 Findings of the Study	43
4.4.1 Information Preserved by the Libraries within Nation Media Group	43
4.4.2.Examining Existing Preservation Practices within the Libraries of Nation Media Group	50
4.4.3..... Challenges Faced in the Preservation of Information within the Nation Media Group Libraries.....	57
4.4.4 Participants' Suggestions to Improve Information Preservation within Libraries.....	62

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction	67
5.2 Summary of findings.....	67

5.2.1 Information Preserved by the Libraries within Nation Media Group	67
5.2.2.Examining Existing Preservation Practices within the Libraries of Nation Media Group	67
5.2.3..... Challenges Faced in the Preservation of Information within the Libraries of Nation Media Group	68
5.2.4 Participants' Suggestions for Enhancing Information Preservation within the Libraries of Nation Media Group	68
5.3 Conclusion.....	69
5.3.1 Information Preserved by the Libraries within Nation Media Group	69
5.3.2.Examining Existing Preservation Practices within the Libraries of Nation Media Group	69
5.3.3.....Challenges Faced in the Preservation of Information within Nation Media Group Libraries.....	70
5.3.4 Participants' Suggestions to Improve Information Preservation within Libraries.....	70
5.4 Recommendations	70
5.5 Areas for further research.....	72
REFERENCES.....	73
APPENDICES.....	77
Appendix 1: Informed Consent Note	77
Appendix 2: Structured Interview Guide (For Library Staff)	79
Appendix 3: Questionnaire (For Journalists/Producers & Researchers/Students).....	80

LIST OF FIGURES

Figure 1: Conceptual Framework	6
Figure 2: Examples of tapes with preserved information at Nation Media	39
Figure 3: Examples of information preserved on different devices	41
Figure 4: Print and Non-Print Preserved Information at Nation Media	43
Figure 5: A digitizer at Nation Media Uganda	47
Figure 6: Some of the preserved information at Nation Media Uganda in files	48
Figure 7: Examples of preserved backup information for different programmes at Nation Media Uganda	49

LIST OF TABLES

Table 3. 1: Study population	30
Table 3. 2: Sample Size Distribution	31
Table 4. 1: Distribution of Respondents by Role	37
Table 4. 2: How often participants use Nation Media Uganda Libraries	38
Table 4. 3: Current role at Nation Media Uganda Libraries	39
Table 4. 4: Length of service at Nation Media Uganda Libraries	40
Table 4. 5: Type of Information Mostly Used by Respondents	41
Table 4. 6: Ease of Access to Information	42
Table 4. 7: Awareness of Preservation Practices	46
Table 4. 8: Perceived Effectiveness of Preservation Practices	46
Table 4. 9: Experience with Difficulty Accessing Older Information	51

LIST OF ABBREVIATIONS

APA:	American Psychological Association
DAMS:	Digital Asset Management Systems
DVD:	Digital Versatile Disc
IASA:	International Association of Sound and Audiovisual Archives
IT:	Information Technology
LIS:	Library and Information Science
LOCKSS:	Lots of Copies Keep Stuff Safe
MDPI:	Media Digitization and Preservation Initiative
NMGU:	Nation Media Group Uganda
OAIS:	Open Archival Information System
OPAC:	Online Public Access Catalogue
SPSS:	Statistical Packages for Social Scientists
VHS:	Video Home System
UNESCO:	United Nations Educational, Scientific and Cultural Organization

ABSTRACT

Information preservation is crucial for maintaining access to valuable media content, especially as libraries face new challenges in the digital age. This study aimed to assess the 21st Century information preservation challenges at Nation Media Uganda (NMGU) libraries and propose ways to enhance preservation practices. The research was guided by four main objectives: to identify the types of information preserved at NMGU libraries, to examine the existing preservation methods, to investigate the challenges faced in preservation, and to suggest practical improvements. A case study design and mixed-methods approach were used, with a sample of 74 participants from the total population of 90 library users and staff.

The findings revealed that archived videos were the most preserved and frequently accessed materials, alongside news articles, photographs, and audio recordings of past radio and television broadcasts. The libraries preserved a mix of analogue and digital formats, reflecting a transition between traditional and modern preservation practices. While most users were aware of the preservation efforts, perceptions of their effectiveness were mixed due to outdated equipment and inconsistent application of standards. Key challenges included limited storage space, frequent server crashes, obsolete digitising machines, lack of funding, shortage of trained staff, absence of clear policies, and improper handling of physical materials. These issues negatively affected access and the long-term safety of archival materials.

To improve preservation, staff recommended upgrading storage infrastructure, modernising equipment and software, implementing metadata systems, and introducing an Online Public Access Catalogue (OPAC). Continuous training and clear preservation policies were also considered essential, along with active involvement from senior management to ensure commitment and support.

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Background to the study

Preserving information has become a critical priority for broadcast libraries in the 21st century. A broadcast library is a specialised audiovisual library or archive that acquires, organises, catalogues, preserves, and provides access to television and radio programmes and related broadcast materials for production, research, education, and long term preservation (International Association of Sound and Audiovisual Archives (IASA), 2026). The rapid technological shift from analogue to digital formats has created new opportunities and challenges for preserving audiovisual heritage. According to United Nations Educational, Scientific and Cultural Organization (UNESCO) (2023), libraries have historically played a critical role in safeguarding valuable documents so that societies can use these materials to remember their past. Even before the digital age, institutions focused on collecting and conserving printed newspapers, books, photographs, and other media through manual methods such as shelving, cataloguing, and environmental control (Ngulube, 2012; Feather, 2019). These practices ensured the survival of materials that document both public and personal histories. Today, the urgency to preserve has only increased due to the fast pace of technological change, which poses new risks to the longevity and accessibility of information.

Globally, digital preservation has evolved into a strategic institutional responsibility. The introduction of digital technology in the late 20th century revolutionised the way information is created, stored, and disseminated. However, it also introduced challenges regarding long-term access to digital records. UNESCO (2021) explains that while digital files have become more common, they are vulnerable to obsolescence as hardware, software, and formats evolve. For instance, digital materials saved on now-defunct media such as floppy disks or early CD-ROMs are often difficult, and sometimes no longer possible, to retrieve (Conway, 2010). According to Nworie (2019), this risk is compounded by the fact that digital materials can deteriorate due to bit rot, file corruption, and the lack of effective metadata (Katuu, 2018). As such, digital preservation requires active management strategies, including migration, emulation, and the use of open standards to ensure continued accessibility (Duranti & Rogers, 2012).

Recognising these threats, UNESCO established the Memory of the World Programme to support the protection of documentary heritage globally. As outlined by UNESCO (2021), this programme promotes the preservation of both print and digital materials and encourages nations to create clear legal frameworks, standards, and partnerships. This reflects a shift from passive preservation methods to active digital curation, where constant monitoring, reformatting, and validation of digital resources are required (Yakel, 2007; Harvey, 2010). Importantly, UNESCO's framework suggests that preservation is not just a technical concern but also a policy and governance issue requiring institutional commitment.

Broadcast libraries, defined earlier as the specialised audiovisual archives that acquire, catalogue, preserve, and provide access to television and radio programmes and related materials, historically dealt with analogue formats such as magnetic tapes, film reels, and paper scripts, and are now at the forefront of digital preservation efforts (Conway, 2010). Gilliland (2016) points out that while a well-preserved paper document can last for centuries, digital storage devices such as hard drives may only last for a few years. Furthermore, technological dependence means that digital materials may become inaccessible unless regularly migrated to new platforms. This risk of inaccessibility is echoed by Duranti and Rogers (2012), who argue that without systematic digital preservation planning, data loss is inevitable. The challenges are even more severe in low-resource settings where stable electricity, internet access, and updated hardware cannot be guaranteed. Today, preservation must address the fragility and obsolescence of digital content.

Across Africa, broadcast and media libraries have also begun embracing digital preservation. In Kenya and Tanzania, national broadcasters have integrated Digital Asset Management Systems (DAMS) into their archives to facilitate real-time retrieval and protection of audio-visual materials (Nworie, 2019; Katuu, 2018). In South Africa, collaborative preservation initiatives, such as the National Records and Archives Services, have implemented open-source digital repositories and cloud-based redundancy systems for broadcast and archival content (Sigauke & Nengomasha, 2012). A parallel trend, offering useful lessons for broadcast libraries facing similar resource constraints, is visible in the academic sector: in Nigeria, university libraries are adopting digital preservation through digitisation of print and electronic resources, creation of institutional repositories, and staff training. Aliyu (2025) notes that Nigerian universities focus on building

technical capacity, developing digital preservation policies, and upgrading IT systems to support digital collections. Whether academic or broadcast, these efforts show that African institutions face similar barriers, with progress remaining uneven due to limited resources, outdated technologies, and competing institutional priorities (Ngulube & Tafor, 2006; Mnjama, 2010).

Within Uganda, Namasinga and Orgeret (2020) explain that, media libraries are increasingly digitising news stories to expand public access and promote journalistic accountability. However, despite these efforts, local institutions often lack the infrastructure and capacity to preserve digital content effectively. Kaddu (2016) describes how the National Library of Uganda has partnered with international organisations to digitise collections and train staff, but local libraries continue to face serious issues. Nakku and Kalema (2018) highlight problems such as media deterioration, lack of infrastructure, and insufficient funding. Twinoburyo (2021) further observes that broadcast libraries like Nation Media Uganda struggle with broken equipment, power shortages, and obsolete storage formats. These systemic issues increase the risk of data loss and undermine the potential of digital preservation to support historical research and media accountability.

Effective preservation requires more than just technology; it also depends on policy, leadership, and institutional support. According to Beagrie (2006), digital preservation is not a one-time investment but a long-term commitment involving strategic planning, risk assessment, and continuous funding. Institutions must establish clear preservation policies that define roles, responsibilities, and technical requirements. In addition, staff must receive training on digital preservation standards, such as the Open Archival Information System (OAIS) model and the use of open formats like XML, TIFF, and WAV (Harvey, 2010; Gilliland, 2016).

African institutions, in particular, need to prioritise collaborative frameworks to share resources and expertise. Ngulube (2012) argues for regional strategies that include policy harmonisation, joint infrastructure projects, and digital preservation networks. Such cooperation can help overcome resource limitations by pooling knowledge, technology, and funding. Similarly, Yakel (2007) advocates for integrating digital preservation into broader information management strategies so that it becomes a routine part of institutional operations, not an afterthought.

The motivation for this study arose from the researcher's direct observation of and professional engagement with broadcast library operations in Uganda. During interactions with media practitioners and library staff at Nation Media Group Uganda, it became apparent that significant volumes of historically valuable broadcast content were at risk of being permanently lost. Obsolete digitising machines lay unused, magnetic tapes deteriorated in inadequate storage conditions, and no formal preservation policy governed what should be kept or discarded. These observations raised urgent questions about how a leading Ugandan media institution was safeguarding its archival collections. The researcher was further motivated by the absence of scholarly literature specifically addressing preservation practices in private broadcast libraries in Uganda, a gap that left such institutions without evidence-based guidance. It is against this background that this study was undertaken to examine information preservation at Nation Media Uganda libraries, identify the challenges encountered, and propose practical strategies for improvement.

1.1.1 Background to the Nation Media Group (NMG) Uganda

Media organisations are institutions that create, gather, process, and distribute information and content to the public through print, broadcast, and digital platforms. Nation Media Group Uganda (NMG-U) is a leading media organization that operates print, radio, and television platforms across the country. Its libraries preserve large collections of news bulletins, scripts, photographs, and audiovisual recordings (Nation Media Uganda, 2024). These collections serve journalists, researchers, and the public by maintaining an accessible record of Uganda's socio-political and cultural evolution (Nation Media Uganda, 2024).

1.1.2 Libraries within the Nation Media Group

Libraries within media organisations play a central role in acquiring, storing, and providing access to the institutional records that support day to day editorial work and long-term institutional memory. NMG-U maintains two major broadcast libraries that serve as specialized information and media resource centres supporting the organization's television, radio, print, and digital news operations (Nation Media Uganda, 2024). These libraries play a critical role in preserving Uganda's audiovisual and documentary heritage while facilitating efficient access to information for journalists, producers, editors, presenters, and researchers. They include: NTV/Spark Library which is primarily dedicated to the acquisition, storage, preservation, and retrieval of audiovisual

content generated by NTV Uganda and Spark TV; and Print and Radio Library which primarily manages newspaper clipping files, print archives, and audio recordings from the group's radio stations (Nation Media Uganda, 2024).

The libraries at NMG-U are vital to the organization's editorial operations. They preserve Uganda's media heritage, support evidence-based journalism, facilitate investigative reporting, reduce production time through efficient retrieval of archived content, and ensure that valuable audiovisual and documentary resources remain accessible for future generations (Nation Media Uganda, 2024). Understanding how NMG-U manages, stores, and preserves its content is crucial for identifying best practices that could strengthen digital preservation efforts in Uganda's media sector.

1.2 Problem Statement

Libraries within media organisations, that is, companies that create, gather, process, and distribute information and content, are expected to apply modern digital preservation strategies within their broadcast libraries that ensure long-term access and integrity of media content (Zahara & Salim, 2022). However, many institutions in developing countries, including Uganda, lack structured frameworks, sustainable funding, and trained personnel to manage the rapid digital transformation. In Uganda specifically, research indicates that only about 30% of libraries have adopted effective digital preservation practices (Kagolo, 2023). At Nation Media Group Uganda, preservation remains largely ad hoc, with inconsistent policies, obsolete digitising equipment, and limited metadata practices (Namasinga & Orgeret, 2020). This gap is reflected in the limited attention preservation receives in the organisation's end of year reports and its main strategic plan, neither of which identifies digital preservation as a distinct priority area. Much of the archival content exists in vulnerable formats such as magnetic tapes and local servers without redundant backup systems. Without systematic preservation planning, the organization risks losing valuable institutional memory and historical records that are part of Uganda's cultural heritage. This study therefore investigates the existing preservation strategies at NMG-U libraries, examines the challenges hindering their effectiveness, and proposes sustainable, modern approaches suitable for broadcast libraries in Uganda.

1.3 Aim of the Study

The aim of the study was to examine modern information preservation strategies at NMGU so as to identify the challenges faced and propose strategies for strengthening the preservation of information materials to support information services within media organisations.

1.4 Research Objectives

The study was guided by the following objectives:

- i. To identify the kind of information preserved within the Nation Media Group libraries.
- ii. To examine the existing information preservation practices employed by the libraries within Nation Media Group.
- iii. To investigate the challenges faced in the preservation of information within the Nation Media Group libraries.
- iv. To propose ways for enhancing the preservation of information within the Nation Media Group libraries.

1.5 Research Questions

The study was guided by the following the research questions:

- i. What is the kind of information preserved within the Nation Media Group libraries?
- ii. What are the existing information preservation practices employed by the libraries within Nation Media Group?
- iii. What are the challenges faced in the preservation of information within the Nation Media Group libraries?
- iv. What are the ways for enhancing the preservation of information within the Nation Media Group libraries?

1.6 Significance of the Study

This study may contribute to the existing body of knowledge on information preservation in broadcast libraries. It may provide valuable insights into how digital and print media can be effectively preserved. The findings of this study may also lead to actionable recommendations that can enhance the efficiency of information management. This study may as well as inform decision-

makers within NMGU and other media organizations about the importance of investing in preservation strategies.

This study is significant because it contributes to the improvement of preservation practices in Uganda's broadcast libraries, which play a vital role in safeguarding the nation's audio-visual memory. The findings provide practical insights that can help Nation Media Group Uganda strengthen its management of both analogue and digital materials, reduce information loss, and enhance long-term access to media content. The study also adds to the limited scholarly work on preservation practices within private media institutions in Uganda, offering evidence that can inform policy development, resource planning, and staff training.

The study further supports broader national, regional, and global development goals. It contributes to Sustainable Development Goal 4, which promotes access to information and learning resources; SDG 9, which encourages innovation and resilient digital infrastructure; and SDG 16, which emphasises strong institutions and preservation of public information. In relation to the African Union Agenda 2063, the study advances Aspiration 1 and Aspiration 5 by addressing digital transformation, cultural heritage preservation, and the strengthening of knowledge institutions.

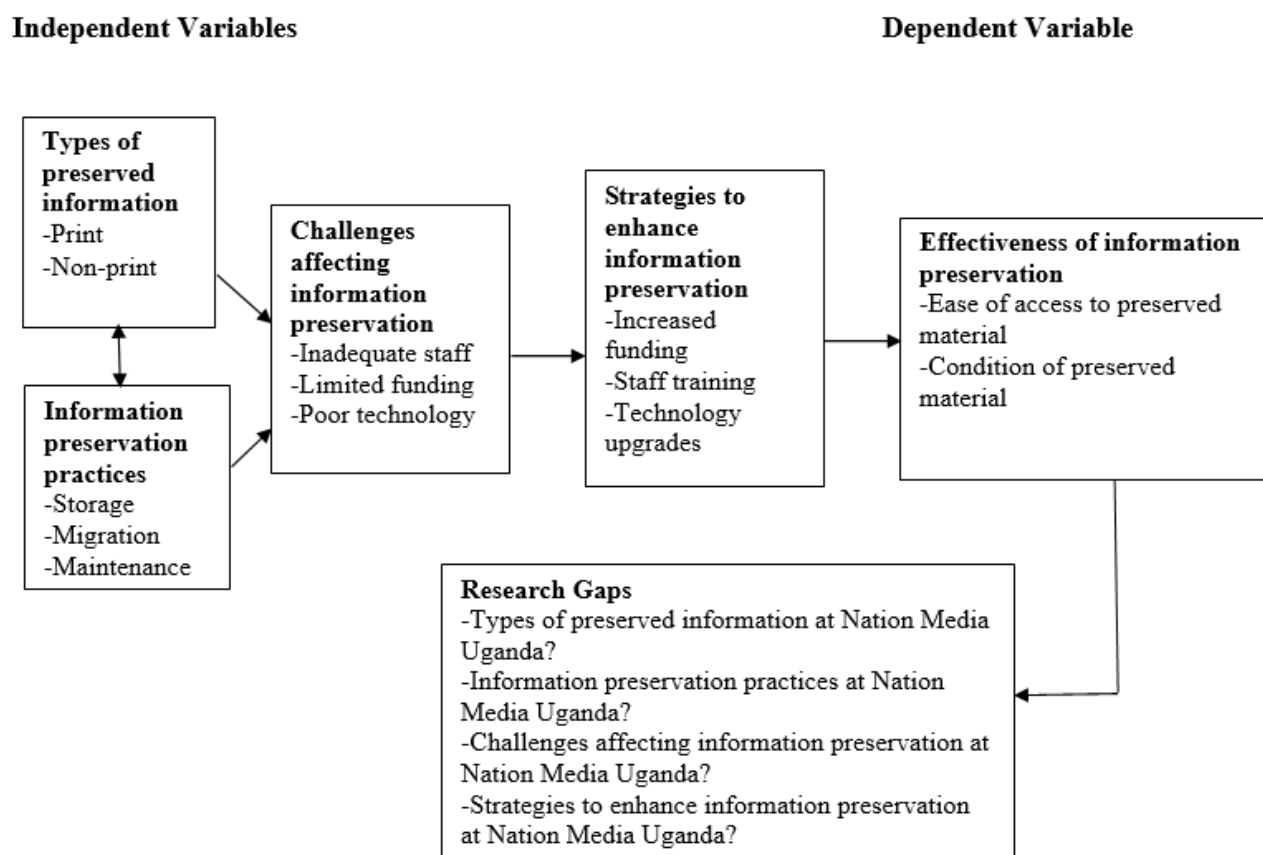
At the national level, the study aligns with the priorities of Uganda's National Development Plan IV (NDP IV), particularly the pillars on digital innovation, information governance, and the preservation of national heritage. By responding to these frameworks, the study provides evidence and recommendations that can support Uganda's transition towards modern, efficient, and sustainable preservation systems.

1.7 Conceptual Framework

A conceptual framework is a visual or conceptual representation that shows the relationship between a study's key concepts (Bryman et al., 2012). It is important to distinguish the conceptual framework from the research gap: the research gap (presented in Chapter Two, Section 2.7) identifies what is missing in existing literature, while the conceptual framework below shows the structural relationships among the study's key variables and guides the analysis of findings. This conceptual framework illustrates how different factors interact to impact the preservation strategies

at Nation Media Uganda libraries, guiding the research towards understanding and improving these practices. The independent variables are the types of information preserved, the existing preservation practices, and the challenges in preservation. These directly influence the dependent variable, which is the effectiveness of information preservation. Strategies to enhance information preservation serve as the moderating variables. Their presence may enhance the effectiveness of information preservation while their absence may hinder it. The framework does not include the research gap, which is reserved for the literature review chapter.

Figure 1: Conceptual Framework



Source: Adopted from Heravi et al. (2021) and Kagolo (2023) and modified by the researcher

The independent variables (types of information preserved, existing preservation practices, and challenges in preservation) directly influence the dependent variable (effectiveness of information preservation). Strategies to enhance information preservation serve as the moderators. Their presence may enhance the effectiveness of information preservation while their absence may

hinder the effectiveness of information preservation. The study sought to understand the specific situation at Nation Media Uganda.

1.8 Scope of the Study

1.8.1 Content Scope

The content scope of this study was restricted to the preservation strategies employed by Nation Media Uganda libraries. The study examined the types of information preserved, assessed existing preservation practices, identified challenges faced in these efforts, and provided actionable recommendations for improvement.

1.8.2 Time Scope

The study was conducted between December 2024 and July 2025. This timeframe was used to develop the research proposal, data collection instruments, and for data collection and analysis, report writing and editing, and submission of the final research report.

1.8.3 Geographical Scope

The geographical scope of this study was limited to Uganda, specifically focusing on Nation Media Uganda libraries located in Kampala.

1.9 Definition of Key Operational Terms

Preservation: This is described as the action or process of protecting, maintaining, and prolonging the life of library and archival materials (Shah et al., 2021). This study adopted the definition that preservation refers to all strategies and actions taken to protect information resources from deterioration and ensure their continued accessibility for future use.

Broadcast Libraries: These are specialised information repositories maintained by radio, television, and multimedia organisations for the purpose of collecting, organising, preserving, and providing access to broadcast-related materials. Unlike general public or academic libraries, broadcast libraries hold content that is directly tied to media production, including raw footage, edited programmes, scripts, news bulletins, photographs, audio recordings, and supporting documentation. They may be physically housed within a media organisation's premises or operate

as standalone units, and they serve both internal users (journalists, producers, editors) and external users (researchers, students). In this study, the term refers specifically to the libraries managed by Nation Media Group Uganda in support of its television, radio, and print operations (Gilliland, 2016; Ddembe & Magala, 2024).

Archival Content: This refers to materials that have been selected for long-term retention because of their enduring informational, historical, or cultural value. In a broadcast library context, archival content includes original recordings, programme masters, historical footage, unedited interview tapes, digitised newspapers, and supporting documentation that capture events and broadcasts over time. Such content is preserved beyond its immediate operational use and is made accessible for future research, legal reference, or institutional memory (Duranti, 2013; Heravi et al., 2021).

Producers: In the context of this study, producers refer to media professionals employed at Nation Media Group Uganda who are responsible for planning, coordinating, and overseeing the creation and broadcast of media content across NTV Uganda, NBS Television, and related radio and print platforms. They are primary internal users of the broadcast library, regularly accessing archived footage, scripts, photographs, and audio recordings to support ongoing production work. Library staff at Nation Media Uganda distinguish producers from other user categories through their staff identification cards, departmental registrations, and the nature of materials they request, which are typically production-related assets rather than purely research materials.

Conservation: This is defined as specific practices taken to slow down deterioration and prolong the life of materials (Anderson, 2020). This study defined conservation as the set of actions taken to stabilize and maintain the physical condition of library materials, ensuring that they remain usable over time.

Information resources: These are defined as materials that libraries collect, store, organize, and disseminate to meet users' information needs (Ahmad & Rafiq, 2023). For this study, information resources was defined as any materials held by Nation Media Uganda libraries that provide valuable content for users.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews some of the existing literature on the study's major concepts and presents the literature based on the research objectives. The study also provides the theoretical framework for the study and concludes with the research gap.

2.2 Theoretical Framework

This study is grounded in two complementary frameworks widely used in information and records management: the Records Life Cycle Theory and the Records Continuum Model. Both frameworks were deliberately selected for their direct relevance to broadcast library operations, not merely to information management in general. Broadcast libraries such as those at Nation Media Uganda are specialised repositories that collect, organise, preserve, and provide access to broadcast-related materials, including raw footage, edited programmes, news bulletins, scripts, photographs, audio recordings, and supporting documents. These materials are produced and used in ways that map directly onto the concepts described in both theories. The Records Life Cycle Theory applies to broadcast libraries because every piece of broadcast content passes through definable stages: footage is captured or recorded (creation), stored and accessed by journalists and producers during active production (maintenance and use), and finally archived or deleted (disposition). The decisions made at each stage directly affect whether a broadcast library can fulfil its preservation mandate. The Records Continuum Model applies because broadcast content does not simply sit idle after its first use. News footage from 2005 may be retrieved in 2025 for a documentary; a radio script may be reused for a courtroom proceeding; a historical photograph may circulate across multiple platforms. This ongoing reuse and repurposing of records is exactly what the Continuum Model describes. Together, these frameworks provide the analytical tools to evaluate whether Nation Media Uganda's current preservation practices align with recognised standards and to identify where gaps exist. Both models are widely used in archival science, records management, and library and information science research, and have been applied in studies of media and broadcast archives in Africa and globally (Upward, 2000; Anderson, 2020; Shah et al., 2021; Katuu, 2018). By applying these theories, this study assessed whether the current practices support long-term access and integrity of records at Nation Media Uganda.

Records Life Cycle Theory

The Records Life Cycle Theory is a traditional model that describes how records pass through distinct stages during their lifespan. These stages include creation or receipt, maintenance and use, and finally, disposition, where records are either destroyed or transferred to an archive for long-term preservation (Anderson, 2020; Yusof & Chell, 2020). This model originated from early archival theory and remains a foundation in modern records management. It offers a linear structure that makes it easier for institutions to plan how they handle documents at each stage of their life.

During the creation stage, it is important that records are made with proper structure and accuracy. Heravi, Stevens, and Bowker (2021) stress that the reliability of a record is determined at the point of creation, especially in digital formats, where metadata and file naming play critical roles. Ngulube and Tafor (2006) also argue that a record's value is determined early, and poorly created records may lack authenticity or usefulness later. In the context of Nation Media Uganda, this stage would involve the recording of news stories, editing of content, and saving of files with clear metadata for future retrieval.

The next stage is maintenance and use, which involves storing, classifying, and accessing records in daily operations. At this stage, records must be organised and protected from loss or damage, especially digital content that may degrade or become inaccessible over time (Gilliland, 2016; Mnjama & Wamukoya, 2007). According to Katuu (2018), without proper infrastructure and routine maintenance, digital records can be easily corrupted or lost. In broadcast libraries, this includes managing servers, naming conventions, access rights, and even ensuring power backup to prevent data loss during outages.

Finally, in the disposition stage, organisations decide whether to destroy records that are no longer needed or preserve them permanently in an archive. This decision is based on legal, historical, and operational value (Duranti, 2013; Yeo, 2007). Beagrie (2006) warns that improper disposition may lead to accidental loss of valuable materials, particularly in digital systems where files can be deleted with a single click. In Uganda, Kaddu (2016) found that many institutions lack clear

disposition policies, resulting in the chaotic storage of digital content, making retrieval and long-term preservation difficult.

The Records Life Cycle Theory is useful because it clearly shows the need for structured procedures at each point in a record's existence. However, it has been criticised for its linear and static approach, which may not reflect the ongoing nature of digital records (Upward, 2000; Anderson, 2020). In reality, records are often reused, shared, or revised over time, and they do not always follow a single path from creation to destruction. Therefore, it remains valuable for defining procedural accountability and for establishing policies that ensure consistency and control throughout the record's life.

Records Continuum Model

The Records Continuum Model, developed by Frank Upward in Australia, challenges the idea of records passing through one stage at a time. Instead, it presents recordkeeping as a continuous and integrated process, with multiple actions (create, capture, organise, pluralise) happening at the same time or repeatedly over time (Upward, 2000; Gilliland, 2016). The model shows how records have social, legal, and historical value from the moment they are created and should be managed with that in mind.

One of the main principles of the continuum model is that records are always active; even after their immediate use has ended. According to Shah, Singh, and Mahmood (2021), this model encourages institutions to think beyond daily operations and consider how records will be used in the future. This includes legal audits, historical research, and institutional memory. Mnjama (2010) notes that this perspective is especially important in news organisations, where archived footage and stories are reused for documentaries or investigations years later.

The Records Continuum Model also promotes collaborative responsibility between creators, users, archivists, and IT staff. Rather than waiting until a record is “inactive” to preserve it, this model supports early planning and cooperation to ensure long-term access and integrity (Duranti & Rogers, 2012; Yeo, 2007). For example, at Nation Media Uganda, journalists, editors, and

Information Technology (IT) professionals should work together to ensure that news footage is saved with appropriate metadata, version control, and secure formats.

Unlike the life cycle model, which ends with either archiving or destruction, the continuum model views preservation as ongoing. A record might be copied, reinterpreted, or reused in different systems without losing its original meaning (Anderson, 2020). In digital environments, this allows for re-use and pluralisation, meaning that records can serve different users for various purposes across time and space (Upward, 2000; Gilliland, 2016). For instance, a news report originally aired in 2020 can be retrieved and used for public education, legal evidence, or social research even a decade later; so long as it has been preserved effectively.

The continuum model is especially important in digital preservation because it adapts well to non-linear, networked information environments. It aligns with the open systems thinking needed in the digital era, where data is not just stored but also shared, transformed, and integrated with other systems (Shah et al., 2021; Katuu, 2018). This helps to overcome some of the limitations of the life cycle approach, particularly in cases where records have multiple uses and users over time.

By combining both frameworks, this study acknowledges that while structured procedures (life cycle) are necessary for operational control, continuous engagement (continuum) is essential for sustaining digital accessibility. This hybrid perspective is particularly relevant to the dynamic workflows in media institutions like Nation Media Group Uganda. The Records Life Cycle Theory helped assess whether the organisation follows proper steps at each stage; from creating and using digital content to deciding what to keep or discard. This included reviewing metadata practices, file organisation, and backup procedures (Heravi et al., 2021; Yusof & Chell, 2020). On the other hand, the Records Continuum Model guided the analysis of how Nation Media Uganda handles records that are reused, shared, or transformed across departments and platforms. This included looking at whether different departments communicate during the recordkeeping process, and whether there is a long-term vision for access and re-use (Upward, 2000; Shah et al., 2021).

Using both models together gave a comprehensive understanding. The life cycle model highlighted the importance of structured processes, while the continuum model revealed the need for

integration, flexibility, and sustainability. This dual-theoretical approach helped uncover gaps in current practices and informed recommendations for improving digital preservation in Uganda's broadcast sector.

2.3 Type of Information Preserved in Broadcast Libraries

Broadcast libraries preserve a wide spectrum of information that collectively documents social, political, and cultural history. Traditionally, these institutions collected print and analogue materials such as newspapers, transcripts, photographs, and videotapes (Ngulube, 2012; Feather, 2019). These resources serve both operational needs and long-term heritage functions. With technological advances, preservation now extends to digital and born-digital materials, including news videos, podcasts, online stories, and social media content (Ithaka, 2023; Katuu, 2018). Digital transformation has redefined preservation from a passive archival activity into a proactive digital curation process requiring metadata, migration, and redundancy planning (Gilliland, 2016; Duranti & Rogers, 2012).

Globally, major institutions such as Indiana University's Media Digitization and Preservation Initiative (MDPI) and the Library of Congress exemplify large-scale digitisation, metadata integration, and long-term data management (AVP, 2023). These models emphasize authenticity, interoperability, and sustainability, principles now guiding preservation worldwide.

With the growth of digital technology, broadcast libraries have expanded their focus to include digital media. This includes digitised versions of old materials, such as scanned newspapers, converted videotapes, or digital photographs, as well as born-digital content that exists only in digital form (Ithaka, 2023; MSU Libraries, 2004). Born-digital content includes websites, social media posts, podcasts, digital videos, blogs, and electronic reports. These formats have become central to how modern societies communicate and document events. According to Ithaka (2023), born-digital content is especially fragile because it can easily be deleted, corrupted, or rendered unreadable if not preserved properly from the beginning. Unlike physical media, born-digital items often lack physical backups, making their preservation more urgent and complex (Shah, Singh, & Mahmood, 2021; Katuu, 2018).

Among the types of digital information preserved in broadcast libraries are audio and video recordings, live news broadcasts, documentaries, and educational programmes. These are essential for documenting real-time events and delivering public education (Heravi, Stevens, & Bowker, 2021; Ahmad & Rafiq, 2023). News videos and sound clips provide a first-hand record of political speeches, interviews, cultural festivals, and other important events. They also show how stories were presented to the public, making them valuable for media studies, journalism education, and historical analysis (Gilliland, 2016; Nworie, 2019). Libraries that specialise in broadcast materials must manage these resources with high levels of accuracy, especially in relation to metadata, format conversion, and access protocols.

To manage digital resources, many broadcast libraries use Digital Asset Management Systems (DAMS). These systems help store, organise, retrieve, and share large volumes of digital content efficiently (Nworie, 2019; Katuu, 2018). DAMS are particularly useful in media environments because they allow users to search by keywords, dates, subjects, or formats, ensuring fast access to archived stories and clips. According to Duranti and Rogers (2012), without such systems, digital collections can become disorganised or even lost, especially if files are stored across multiple devices or without proper metadata. Moreover, DAMS help support collaborative work among journalists, editors, and researchers by making digital records accessible within and across departments (Shah et al., 2021; Heravi et al., 2021).

Despite the rise of digital preservation, printed and physical materials still hold an important place in broadcast libraries. Items such as printed scripts, press releases, news bulletins, posters, and promotional materials are often kept as part of media libraries' collections (Ddembe & Magala, 2024; Anderson, 2020). These documents provide insights into how broadcasts were planned, structured, and shared with the public. They also help trace changes in media language, design, and communication styles over time (Gilliland, 2016; Ngulube & Tafor, 2006). Even when digital alternatives exist, many researchers still prefer consulting printed versions for their original layout, marginal notes, or formatting, which may not be captured in scanned files (Mnjama, 2010; Yakel, 2007).

Another important category of information preserved in broadcast libraries is archival records. These include raw footage, unedited interviews, production notes, editing scripts, and historical documentation related to past broadcasts (Ahmad & Rafiq, 2023; Gilliland, 2016). These records are essential for keeping the memory of broadcasting institutions alive and are used for legal review, academic research, and media retrospectives. Heravi et al. (2021) note that archival records serve as the institutional memory of media houses, helping to document editorial decisions, programme development, and institutional growth. Similarly, Upward (2000) emphasises that archives are not just stored information but active evidence that can inform future policies, programming, and public discourse.

However, there are still serious gaps in the types of content that are actually preserved, especially in African broadcast libraries. Many institutions focus heavily on digitising old newspapers and printed reports while overlooking digital news, radio recordings, podcasts, social media content, and web-based journalism (Ithaka, 2023; Kaddu, 2016). This gap is especially troubling as a growing portion of journalism now takes place online, through platforms like Facebook, YouTube, and Twitter. According to Sigauke and Nengomasha (2012), the failure to preserve online and born-digital content can result in a significant loss of national media memory, particularly in developing countries where digital literacy and infrastructure may be limited.

In Africa, preservation practices vary widely. Nigerian university libraries have developed digitisation programs and institutional repositories to preserve academic and broadcast content (Aliyu, 2025; Ngulube & Tafor, 2006). South African archives and broadcasters use open-source repositories and the LOCKSS (Lots of Copies Keep Stuff Safe) approach for redundancy (Sigauke & Nengomasha, 2012). Kenya and Tanzania have adopted Digital Asset Management Systems (DAMS) to centralize storage and retrieval of broadcast content (Katuu, 2018; Nworie, 2019).

In Uganda, most studies and digitisation efforts have centred on national and academic libraries, such as the National Library of Uganda and Makerere University Library (Kaddu, 2016; Nakku & Kalema, 2018). These efforts often focus on books, theses, government reports, and historical newspapers. Private media organisations, including Nation Media Uganda, are rarely studied in scholarly research on digital preservation. This creates a gap in knowledge about how broadcast

houses manage their information, especially digital materials that are generated daily and hold long-term cultural value (Aliyu, 2025; Twinoburyo, 2021).

At the same time, private media institutions like Nation Media Uganda play a major role in informing the public, shaping public opinion, and recording the country's most important moments. Without intentional efforts to preserve these materials, Uganda risks losing critical parts of its modern history. Feather (2019) argues that when news reports, videos, and online stories are not preserved, society loses access to a shared record of national experience. In addition, Yakeel (2007) suggests that the preservation of digital media requires more than technology; it demands clear policies, staff training, and institutional willpower.

As news increasingly moves to digital platforms, it is vital to know what kinds of information are being preserved by private broadcasters. This includes checking whether they are saving digital audio, social media posts, live-streamed content, online news articles, and multimedia packages. According to Mnjama and Wamukoya (2007), identifying what is preserved, and what is not, is the first step in building a reliable national memory. If digital-first content is ignored in preservation planning, future researchers and citizens may find large gaps in the media record.

This study, therefore, sought to address these gaps by examining what types of information are preserved by Nation Media Uganda libraries. It will explore whether they are maintaining both physical and digital records, including born-digital content, and how they are organising, storing, and accessing these materials. By identifying the types of content preserved, this study contributes to a better understanding of how Uganda's media history is being protected, or possibly forgotten. As Katuu (2018) points out, successful information preservation is not only about saving data, it's about ensuring future generations can access, understand, and learn from it.

2.4 Information Preservation Practices in Broadcast Libraries

Preservation practices encompass both technical and organizational activities designed to ensure information longevity. Internationally, digital preservation follows principles outlined in frameworks like the Open Archival Information System (OAIS), which stresses continuous management, metadata documentation, and integrity verification (Beagrie, 2006; Duranti, 2013).

Best practices include: Use of open formats such as TIFF, WAV, and PDF/A (Library of Congress, 2024); Redundant storage and geographic replication (LOCKSS, 2023); Routine fixity checks for detecting data corruption (DPConline, 2025); and Comprehensive metadata standards (Dublin Core, PREMIS) for interoperability (Gilliland, 2016). Institutions like Purdue University Libraries and the University of Minnesota Libraries illustrate structured preservation frameworks integrating bitstream copying, format migration, and risk-based prioritisation (Nworie, 2019; University of Minnesota Libraries, 2024).

Digital preservation, in particular, has become a core area for broadcast libraries due to the rapid growth in born-digital content and the risk of digital obsolescence. Effective digital preservation goes beyond simple storage. It involves activities like creating multiple copies, performing routine fixity checks to verify file integrity, and updating formats to avoid technological obsolescence (Shah et al., 2021; Katuu, 2018). Shah et al. (2021) explain that fixity checks help identify corrupted files early, allowing restoration from backups. This protects against silent data loss, which is especially common in large collections. In addition, Heravi et al. (2021) stress that digital preservation must be complemented by physical preservation. Physical media like photographs, scripts, and tapes provide historical context that digital files alone may lack. This means institutions must protect both forms of content using appropriate storage and handling strategies (Anderson, 2020; Ngulube & Tafor, 2006).

Leading academic libraries around the world demonstrate structured approaches to digital preservation. For example, Purdue University Libraries have adopted three major strategies: the use of open and sustainable file formats, redundant replication, and comprehensive metadata management (Purdue University Libraries, 2025; Nworie, 2019). Open file formats are chosen because they are not dependent on specific software or hardware, making them easier to access in the long term (Beagrie, 2006; Yakel, 2007). Redundant replication refers to keeping multiple copies of files in different locations, often using systems like LOCKSS (Lots of Copies Keep Stuff Safe), which help protect against data loss from hardware failure or disaster (Duranti, 2013; Shah et al., 2021). Metadata, on the other hand, adds meaning to the preserved content by describing the time, context, and technical features of the digital object, making retrieval and reuse more efficient (Gilliland, 2016; Mnjama & Wamukoya, 2007).

Similarly, University of Minnesota Libraries have developed a comprehensive Digital Preservation Framework that balances technology and expert human judgement. Their strategies include bitstream copying, format migration, and fixity verification (University of Minnesota Libraries, 2024). Bitstream copying makes exact duplicates of digital files, while format migration ensures that files can still be opened in modern systems as technology evolves (Anderson, 2020; Katuu, 2018). Their preservation decisions are guided by clear criteria such as uniqueness, legal value, cost, and risk of loss. These decisions are not made by IT experts alone but by interdisciplinary teams that include archivists, content specialists, and digital curators (Duranti & Rogers, 2012; Shah et al., 2021). This shows that sustainable digital preservation relies on both policy and teamwork.

Physical preservation remains equally important. Many broadcast libraries still hold large amounts of print and analogue media such as tapes, paper documents, and photographs. Institutions like Emory Libraries run active programmes to preserve and digitise these fragile materials. Methot (2023) reports that Emory Libraries scan old newspapers, photographs, and documents to create digital surrogates that protect the originals from wear while improving user access. However, even with digitisation, the physical copies are still stored in climate-controlled environments and checked regularly for deterioration (Heravi et al., 2021; Anderson, 2020). Northwestern University Libraries also follow a structured plan for physical and digital preservation. Their policy includes objectives such as maintaining authenticity, ensuring long-term accessibility, and monitoring digital content integrity through continuous system audits (Northwestern University Libraries, 2025; Beagrie, 2006).

In the African context, preservation practices are often fragmented due to infrastructural gaps. Many initiatives rely on donor funding and lack integration into national information policies (Ngulube, 2012; Kaddu & Kalule, 2023). Collaborative frameworks, such as South Africa's National Archives and Kenya's DAMS initiatives, demonstrate that resource-sharing and joint policies yield stronger preservation outcomes (Katu, 2018). In Uganda, according to Kaddu and Kalule (2023), the National Library of Uganda has launched projects to digitise historical collections and establish digital repositories. However, challenges such as scattered collections,

poor storage conditions, limited professional training, and inadequate funding continue to slow down progress (Sigauke & Nengomasha, 2012; Twinoburyo, 2021). One major issue is the lack of clear metadata standards, which makes it difficult to organise and retrieve information effectively (Kaddu & Kalule, 2023; Ngulube, 2012). Additionally, many local libraries depend on donor-funded projects without integrating preservation into national policy or institutional planning (Aliyu, 2025; Katuu, 2018).

Another key concern is that most documented preservation practices focus on academic or national institutions, leaving private broadcast libraries understudied. For example, while institutions like Makerere University and the National Library of Uganda have received attention, there is little literature about preservation practices in private media houses such as Nation Media Uganda (Kaddu, 2016; Nakku & Kalema, 2018). This creates a knowledge gap, especially since private broadcasters generate much of the country's daily news, commentary, and public affairs programming (Twinoburyo, 2021; Feather, 2019). It is unclear whether such organizations use digital asset management systems, back up their content regularly, or convert analogue footage to digital formats for long-term access.

Without proper preservation, valuable broadcast content is at risk of being lost permanently. Raw footage, edited programs, scripts, and even social media content form part of Uganda's modern cultural memory. As Shah et al. (2021) point out, digital content is vulnerable to deletion, technological obsolescence, and lack of backups. Yet without preservation, news coverage of events like elections, disasters, protests, and celebrations may vanish, leaving future generations with little to study or remember. Gilliland (2016) warns that when preservation is left to chance or under-resourced, entire periods of media history can disappear.

Therefore, it is essential to examine real-world preservation practices in private media libraries like Nation Media Uganda. This includes looking at whether they are digitizing print collections, preserving born-digital content like podcasts and web news, or maintaining analogue archives (Heravi et al., 2021; Yakel, 2007). Such research will help reveal both strengths and weaknesses in current practices and support the development of policies to protect Uganda's media heritage.

As Katuu (2018) suggests, preservation must not be treated as a one-time activity, but as an ongoing institutional responsibility that requires commitment, planning, and investment.

2.5 Challenges Faced in Information Preservation in Broadcast Libraries

As more information is now created in digital formats, broadcast libraries face increasing difficulties in preserving it over time (Ithaka, 2023; Anderson, 2020). Digital files are more fragile than paper or film, and they require more care, knowledge, and technology to manage. According to Liblime (2025), digital preservation involves not only saving files but also ensuring they remain accessible, readable, and usable for future generations. The transition from analogue to digital formats, though beneficial in many ways, introduces a new set of challenges that broadcast libraries must address. The preservation of broadcast materials, particularly digital formats, faces multifaceted challenges: technological, organizational, financial, and human.

Technological Challenges

Technology obsolescence happens when the hardware or software needed to open a file becomes outdated or unavailable. For example, content stored on CDs, floppy disks, or in file formats like RealPlayer or Flash may become unreadable because modern computers no longer support these technologies (Nworie, 2019; Iron Mountain, 2023). According to Liblime (2025), even new formats can become obsolete within a few years if they are not widely adopted or supported. This forces libraries to constantly migrate content to newer formats, a time-consuming and costly process. Zahara and Salim (2022) argue that without a strategy for dealing with technological change, institutions risk losing large portions of their digital collections.

Another key challenge is digital file decay and corruption. Unlike books or films that deteriorate slowly, digital files can be lost instantly due to corruption, accidental deletion, or system failure. Iron Mountain (2023) explains that even slight damage to a file system or storage medium can make digital content unusable. This risk is higher when content is stored on fragile media like magnetic tapes or unmaintained hard drives. Poor storage conditions, such as exposure to heat, dust, or moisture, can speed up this deterioration (Anderson, 2020; Methot, 2023). Furthermore, according to DPConline (2025), human errors during upgrades or backups are a major cause of

data loss. Without fixity checks and version control, libraries may not notice file corruption until it is too late.

Organizational and Policy Challenges

Organisational challenges also affect digital preservation efforts. Many libraries do not have strong organisational systems for labelling and cataloguing digital files, leading to poor metadata, missing information, and confusing file structures (Gilliland, 2016). Metadata is essential because it records the file's origin, format, date, and context. Without it, files may become meaningless or impossible to locate. Zahara and Salim (2022) point out that many institutions lack clear policies or frameworks for organising digital archives. When metadata is inconsistent or missing, digital resources become difficult to search and retrieve, weakening their usefulness and accessibility.

Volume Velocity

Another problem is the huge volume of digital content being created today. Unlike the past, when libraries collected mainly print newspapers and radio scripts, today they must preserve large video files, podcasts, social media content, web pages, and digital broadcasts; all of which are generated daily (Ithaka, 2023; National Library of New Zealand, 2025). Managing such a wide range of formats requires specialised software and significant data storage capacity. According to Iron Mountain (2023), many institutions are overwhelmed by the size of their digital collections. They struggle with storage limits, file naming conventions, and tracking file histories. Gilliland (2016) and Yakel (2007) argue that without trained staff and enough funding, large digital collections are difficult to manage properly and are at greater risk of being lost.

Financial and Human Resource Challenges

Resource constraints are a major challenge for most broadcast libraries, particularly in developing countries. Preserving digital information requires regular investment in software, servers, and skilled staff. However, many libraries operate on tight budgets that barely cover daily operations (Kagolo, 2023; Mnjama, 2010). According to Zahara and Salim (2022), preservation efforts often receive low priority in financial planning, especially when institutions focus more on daily news production. As a result, digital preservation systems may be outdated, and staff may lack the training to implement best practices (Anderson, 2020; Methot, 2023). Training programmes are

rare, and there is a lack of in-house technical expertise to address problems like format migration or metadata creation.

Legal and Ethical Challenges

Copyright and privacy laws also present serious barriers to digital preservation. Many digital files, especially audio-visual ones, are protected by intellectual property laws, meaning libraries must seek permission before preserving or sharing them (Ahmad & Rafiq, 2023; Anderson, 2020). This becomes even harder when the copyright owner is unknown or has died. These legal battles make it difficult for libraries to preserve internet-based media or to keep public digital archives open. The National Library of New Zealand (2025) adds that balancing access and privacy, especially with user-generated content, is a growing challenge.

Collaboration between institutions could help solve many preservation problems, but in practice, this is limited. Many media libraries operate in isolation, managing their collections without shared tools or standards (Ithaka, 2023; National Library of New Zealand, 2025). According to Katuu (2018), successful digital preservation needs shared protocols, collaborative platforms, and resource-sharing. Yet, due to competition or lack of coordination, libraries often miss out on partnerships that could reduce costs and improve preservation outcomes.

In Uganda, broadcast libraries face similar challenges, often made worse by local issues. Kagolo (2023) explains that many Ugandan institutions have insufficient digital infrastructure, lack preservation policies, and do not employ trained archivists. Electricity blackouts, unstable internet, and old equipment make it difficult to carry out consistent digital preservation (Kaddu & Kalule, 2023; Twinoburyo, 2021). According to Methot (2023), even basic tasks like file backups or digitisation are affected when institutions lack funding or technical support. These problems increase the risk of information loss, especially for locally produced content that may not exist elsewhere.

The lack of documented case studies from private media libraries further complicates the situation. While public and academic libraries are studied regularly, private broadcast organizations like

Nation Media Uganda are rarely included in research (Kaddu, 2016; Twinoburyo, 2021). It is unclear whether they are applying international preservation standards, using digital asset management systems, or even keeping backups of their digital content. This lack of data makes it difficult to support or improve their practices. As Liblime (2025) and Zahara and Salim (2022) note, local research is essential for developing appropriate and sustainable preservation strategies. Understanding the unique challenges faced by private institutions such as Nation Media Uganda is therefore vital for ensuring Uganda's media history is not lost.

2.6 Ways to Enhance Information Preservation in Broadcast Libraries

Effective information preservation in broadcast libraries is vital to maintaining access to culturally and historically significant media content (Gilliland, 2016; Feather, 2019). Enhancing preservation requires technical innovation, policy reform, and human capacity development.

Technical Measures

One of the most widely endorsed strategies is the use of sustainable file formats. Heravi, Stevens, and Bowker (2021) emphasise that choosing open, non-proprietary, and well-documented formats, such as TIFF for images, WAV or FLAC for audio, and MP4 (H.264) for video, ensures long-term accessibility. These formats minimise the risk of format obsolescence and support metadata embedding (Beagrie, 2006; Yakel, 2007). Similarly, the Library of Congress (2024) recommends that broadcast libraries regularly review their format choices and convert files as necessary to avoid future unreadability. This dual focus on open formats and proactive migration strategies provides a strong technical foundation for digital preservation.

Metadata is equally essential. Metadata serves as the backbone of digital asset management, providing context such as creation dates, source information, technical specifications, and rights usage (Gilliland, 2016; Nworie, 2019). Nworie (2019) explains that standardised metadata schemas, like Dublin Core or PREMIS, enable consistent documentation and searchability across collections. The Digital Preservation Coalition Handbook (2025) further underlines that well-structured metadata is critical during preservation processes like fixity checking and format migration. When metadata is thorough and standardised, libraries can ensure each digital item

remains discoverable, verifiable, and authentic (Duranti & Rogers, 2012; Shah, Singh, & Mahmood, 2021).

Effective storage management, including redundancy and checks, is critical. National Archives (2025) recommend a multi-tiered storage strategy combining on-site, off-site, and cloud solutions for disaster resilience. The University of Minnesota Libraries (2023) also incorporate their LOCKSS (Lots of Copies Keep Stuff Safe) implementation, ensuring data redundancy across independent systems. Combining these approaches with fixity checks (regular SHA or MD5 hashing) enables early detection of file corruption (DPConline, 2025; Iron Mountain, 2023). These technical practices safeguard content integrity and longevity.

Another significant avenue for preserving heritage is the digitisation of analogue collections. MSU Libraries (2024) highlight its importance for safeguarding fragile materials like newspapers, tapes, and photographs. Digitisation achieves dual aims: reducing physical handling and enabling remote access. But digitisation requires careful curation; resources should be prioritised to preserve the most delicate or historically significant items (Mnjama & Wamukoya, 2007). Without selective focus, institutions risk depleting budgets and labour on low-priority content (Feather, 2019; Library of Congress, 2024).

Organizational and Policy Strategies

Institutions should adopt formal preservation frameworks that define responsibilities, workflows, and standards. Governance mechanisms, such as oversight committees, ensure accountability and resource allocation (Beagrie, 2006; National Archives, 2025). Integration of preservation into institutional policy aligns with the Records Continuum Model by embedding long-term thinking into everyday operations. A digital preservation framework serves as a guiding document that outlines high-level goals, roles, standards, and workflows. The University of Minnesota Libraries (2023) provide a notable example: their framework lays out how collections are selected, ingested, stored, accessed, and reviewed. It also sets criteria for prioritization and resource allocation. By defining responsibilities, such as who monitors fixity, who handles metadata, and who conducts format migrations, such frameworks enable coordinated workflows. Complementing this, the

National Archives (2025) emphasise that a documented strategy increases accountability and helps secure funding by clearly articulating preservation needs.

As Kagolo (2023) argues, preservation cannot be a "store-and-forget" activity; it requires continuous engagement. Regular audits of digital holdings can detect issues such as file corruption, missing files, or obsolete formats (Iron Mountain, 2023; DPOnline, 2025). These audits should be complemented by updates to storage environments, including migrating data to current servers or cloud platforms (Katuu, 2018; University of Minnesota Libraries, 2024). Kagolo also stresses the importance of ongoing training for staff so they can recognise risks, apply best practices, and respond to technological changes effectively. Together, proactive audits, infrastructure maintenance, and staff training create an evolving and responsive digital preservation environment.

Collaboration and Capacity Building

Collaboration among libraries and related institutions can greatly enhance preservation efforts, especially when addressing shared formats and threats. Shah et al. (2021) note that collaborative preservation networks enable resource-sharing, peer review, and shared technical solutions. The Digital Preservation Coalition (2025) suggests joint migration strategies and shared storage systems to reduce costs and build redundancy. The National Archives (2025) recommends establishing consortia or archival alliances for collective format monitoring, training, and policy development. By pooling knowledge and resources, institutions reduce duplication of effort and achieve a more secure, distributed preservation infrastructure.

Contextual Adaptation for Developing Environments

For developing countries, scalable and cost-efficient solutions, such as open-source DAMS and low-power backup systems, are more realistic (Katuu, 2018). Regular monitoring, risk assessment, and performance evaluation ensure adaptability and long-term resilience. Investing in training and capacity building is vital to equip library staff with the technical expertise necessary for effective preservation. Kagolo (2023) and Anderson (2020) both point out that many broadcast libraries suffer from high staff turnover and a lack of specialized digital preservation training, undermining their ability to maintain long-term systems. Regular professional development, via workshops,

conferences, and online courses, enables librarians to learn about evolving standards, tools, and threats (Beagrie, 2006; Methot, 2023). Training is not a one-time investment but must be incorporated into staff development plans to retain organisational knowledge and skills. The Digital Preservation Coalition Handbook (2025) and Iron Mountain (2023) both recommend maintaining a preservation risk register to identify threats, like hardware failure, format obsolescence, or cyber-attacks, and to track mitigation activities. Regular policy reviews, technical assessments, and security evaluations ensure plans stay current and can respond to new challenges (Katu, 2018; Shah et al., 2021). A culture of continuous improvement enables institutions to learn, adapt, and strengthen their preservation capabilities.

Compliance and Regulatory Environment

Clear intellectual property and sustainability policies support preservation by ensuring legal protection and resource planning. The National Archives (2025) caution that unresolved rights issues can prevent institutions from saving or sharing digital material. Similarly, the Digital Preservation Coalition (2025) emphasises the need to develop policies that manage copyright, privacy, and permissions. When broadcast libraries create formal agreements with rights holders, they can preserve content transparently and legally, enabling future research and access.

Implementing standardised policies and governance frameworks enhances effective preservation by reducing inconsistencies. Zahara and Salim (2022) point out that many libraries operate with ad hoc or undocumented procedures, which results in irregular metadata quality and storage practices. Governance mechanisms, such as oversight committees and preservation roles, ensure that standards are upheld, budgets are allocated, and risk is monitored (Beagrie, 2006; Duranti & Rogers, 2012). Well-documented processes foster organisational clarity and sustainability.

2.7 Research Gap

Most of the existing literature on information preservation has focused on public and academic institutions, particularly in developed countries where libraries benefit from reliable infrastructure, skilled staff, and well-funded programs. These contexts differ greatly from private broadcast libraries in Africa, which remain underexplored despite their critical role in capturing cultural and historical memory. In Uganda, studies have largely concentrated on the National Library and

university libraries, with attention given to digitizing print collections such as books, theses, and newspapers. Far less is known about how private media organizations, such as NMGU preserve their content. This gap creates uncertainty about the types of materials actually preserved.

Another limitation in the literature is the lack of evidence on preservation practices in private broadcast libraries. While international studies highlight best practices like metadata standards, redundant storage, and open file formats, it remains unclear if or how these are applied in Ugandan media settings. Instead, many local institutions appear to operate with limited resources, outdated technologies, and informal processes, but little empirical data exists to confirm this. The challenges of preservation are widely recognized in broader African research. However, these are rarely examined in the specific context of private broadcast libraries, which face unique operational pressures and commercial constraints. Similarly, most recommended solutions are designed for well-resourced institutions and may not be directly applicable to the realities of media organizations in Uganda.

This study addresses these gaps by focusing on NMGU as a case study. It examines the specific kinds of information preserved, the practices in place, and the challenges encountered, while also exploring context-appropriate ways of strengthening preservation efforts. By doing so, the research contributes a practical, evidence-based understanding of how private broadcast libraries in Uganda manage their information heritage in the 21st century.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter detailed the systematic steps the researcher adopted to collect and analyze data for the study. It encompassed the chosen research design, the overall research approach, the specific area where the study was conducted, the defined population from which data was drawn, the sampling strategy employed, the methods used for data collection, the measures taken to ensure data quality control, the processes for data analysis, and the ethical and gender considerations observed. Finally, the chapter addressed the limitations encountered during the study.

3.2 Research Design

A research design is a structured plan that guides the entire research process (Creswell & Creswell, 2018). A case study design was adopted for this research. According to Yin (2018), a case study enables an in-depth, contextual analysis of a specific entity within its real-life environment. This design was ideal because Nation Media Uganda provides a rich environment for examining preservation practices, challenges, and strategies within a single broadcast institution. The case study allowed for the collection of both qualitative and quantitative data, integrating multiple perspectives from librarians, journalists, producers, and researchers. This approach facilitated an in-depth exploration of how preservation practices operate within a real institutional context rather than relying on generalized assumptions.

3.3 Research Approach

The research approach delineated the overarching framework that guided the entire study (Creswell & Creswell, 2018). The study employed a mixed-methods approach, combining both qualitative and quantitative methods. Creswell and Creswell (2020) emphasize that mixed methods provide a comprehensive understanding of a research problem by integrating numerical trends with detailed contextual insights. The mixed-methods approach was necessary in this study because no single method could adequately address all four research objectives. Different objectives required different types of data: some needed measurable, countable responses from a broad group of users, while others required detailed explanations and narratives from specialist staff. Using only quantitative methods would have captured frequency data but missed the experiential knowledge

of library staff. Using only qualitative methods would have provided depth but lacked generalisability across the broader user population (Zohrabi, 2013).

Specifically, the quantitative method (questionnaire) was applied to Objectives 1 and 2: to identify the kinds of information preserved at Nation Media Uganda libraries, and to examine existing preservation practices. These objectives required data from a large, representative group of users (journalists, producers, and researchers/students) about their usage patterns, awareness levels, and perceptions of effectiveness. The qualitative method (structured interviews) was applied primarily to Objectives 2, 3, and 4: to examine preservation practices in depth, to investigate the specific challenges staff encountered, and to generate practical recommendations for enhancement. Library staff, as frontline practitioners, were best positioned to provide the contextual and experiential insights needed for these objectives. The rationale for integrating both approaches was triangulation, using multiple data sources to cross-validate findings and strengthen reliability (Denzin, 2017). The quantitative findings informed the interview questions, while the interview responses helped explain and contextualise the patterns observed in the quantitative data (Creswell & Creswell, 2018).

3.4 Area of the Study

The study was exclusively focused on Nation Media Uganda, an established media institution located in Kampala, Uganda. This particular organization was selected as the study area due to its significant role in the Ugandan media sector and its evident commitment to preserving its diverse informational assets. Its extensive collection of print and broadcast materials made it an ideal and representative site for examining contemporary information preservation practices within a developing country's media sector.

3.5 Population of the Study

As defined by Bryman (2012), a population represents the entire universe of units possessing common attributes from which a sample is subsequently chosen. The population for this study specifically consisted of the staff and various users of the Nation Media Group Uganda library. This included key stakeholders such as journalists, producers, and external researchers who regularly interacted with the library's resources. More precisely, the study focused on three distinct categories within this population:

Library Staff: This group comprised the librarians and information professionals who held direct responsibility for managing, organizing, and preserving the library's extensive collections. Their insights were crucial for understanding internal preservation processes.

Journalists and Producers: These individuals represented the primary internal users of the library. They frequently accessed the library for purposes such as retrieving archival footage, historical scripts, and various other media materials essential for their daily journalistic work. Their experiences highlighted the practical utility and accessibility of preserved information.

Researchers and Students: This category included external users who sought access to Nation Media Uganda's historical broadcasts and media resources for academic, personal, or professional research purposes. Their perspectives offered an external evaluation of the library's preservation efforts and accessibility.

The varied experiences and feedback obtained from both staff and users were instrumental in identifying the inherent strengths and weaknesses within the existing preservation methods employed by Nation Media Uganda. The detailed breakdown of the study population was as follows:

Table 3. 1: Study population

Category	Description	Number
Library Staff	Librarians	10
Journalists/Producers	Reporters and producers using the library resources	50
Researchers/Students	External users seeking archived media for research	30

Source: Nation Media Uganda (2024)

3.6 Sampling Strategy

In situations where the target population is sizeable, sampling becomes a necessary process to obtain a manageable and representative subset (Majid, 2018). For this study, a probabilistic sampling approach was employed to derive an appropriate sample size. The widely recognized Yamane's formula of 1967 was utilized for this calculation:

$$n = \frac{N}{1 + N(e)^2}$$

Whereby n is the sample size

N is the target population = 90

e is the margin of error

$$n = \frac{90}{1 + 90(0.05)^2} = 73.47$$

Therefore, the researcher rounded up and adopted a sample size of 74 participants for the study.

The study used stratified random sampling to ensure representation from each key category. This method involved systematically dividing the entire population into distinct, homogeneous subgroups or 'strata' (Kothari, 2019). From each of these identified strata, individual participants were then randomly selected. This approach rigorously ensured that all relevant segments of the study population were adequately and proportionally represented within the final sample. The population was meticulously divided into three key strata: Library Staff, Journalists/Producers, and Researchers/Students.

Based on the calculated total sample size of 74, the number of participants drawn from each stratum was determined proportionally to their representation within the overall population. Within each stratum, individuals were then randomly selected to participate in the study. This random selection was achieved through the use of random number generators, a method that ensured fairness and effectively eliminated potential researcher bias in participant selection.

Table 3. 2: Sample Size Distribution

The following table illustrates the sample size distribution based on the identified strata:

Stratum	Total Population	Proportion of Total (%)	Sample Size (n)
Library Staff	10	11.1%	8
Journalists/Producers	50	55.6%	41
Researchers/Students	30	33.3%	25

The sample size has been calculated as follows:

Library Staff:

$$\text{Proportion: } \left(\frac{10}{90}\right) \times 74 = 8$$

Journalists/Producers:

$$\text{Proportion: } \left(\frac{50}{90}\right) \times 74 = 41$$

Researchers/Students:

$$\text{Proportion: } \left(\frac{30}{90}\right) \times 74 = 25$$

By employing this stratified random sampling method, the study successfully gathered diverse and representative perspectives from various key stakeholders intimately involved in the library's daily operations and its long-term preservation efforts.

3.7 Data collection methods

Two complementary data collection instruments were employed: structured questionnaires and structured interviews.

3.7.1 Structured Interviews

Interviews, as defined by Kothari (2019), are systematic methods for data collection where study participants are thoroughly probed based on a predetermined set of questions. Structured interviews were conducted with library staff responsible for managing preservation systems. These interviews explored issues such as workflow processes, policy frameworks, and institutional

challenges in greater depth. Open-ended questions allowed respondents to express opinions and suggest improvements.

3.7.2 Questionnaires

The researcher employed questionnaires to systematically generate quantitative data pertaining to the research objectives. The use of questionnaires also offered the significant advantage of facilitating data collection from a larger number of study participants conveniently and at their own pace (Creswell, 2014). The questionnaires contained closed-ended items designed to measure awareness, challenges, and satisfaction levels using Likert scales. This facilitated statistical analysis and comparison.

3.8 Data Quality Control

Validity

According to Mohajan (2017), validity refers to the extent to which a research instrument genuinely measures what it purports to measure. To firmly establish the validity of the questionnaires, the researcher conducted a meticulous pilot study involving 6 carefully selected respondents. The primary purpose of this pilot study was to ascertain whether the data collection instruments adequately met the required objectives and to identify and eliminate any potential ambiguities, misunderstandings, or leading questions. The pilot study was specifically conducted with 2 librarians, 2 journalists, and 2 researchers from Vision Group, a comparable media organization, prior to the commencement of the actual main study. These pilot participants provided invaluable feedback on the clarity and comprehensibility of the questions. Their responses were rigorously assessed to determine their relevance and appropriateness to the research objectives, allowing for necessary refinements to the questionnaire. Expert review was also sought from the research supervisor and two senior faculty members at Makerere University to assess content validity. Ambiguous or overlapping questions were reworded for clarity based on pilot feedback.

Reliability

Reliability, as articulated by Mohajan (2017), gauges the consistency, precision, replicability, and trustworthiness of a research instrument. For this study, internal consistency reliability was

meticulously employed to ensure that both the structured interviews and questionnaires consistently produced stable and trustworthy results. Internal consistency specifically refers to the degree to which all items within a survey or interview instrument coherently measure the same underlying construct or concept (Creswell & Creswell, 2020). Reliability was ensured by testing for internal consistency using Cronbach's Alpha, where coefficients ≥ 0.70 indicate acceptable reliability (Creswell & Creswell, 2020). The instruments achieved a coefficient of 0.82, confirming high internal consistency. This ensures that the same instruments would yield similar results under consistent conditions.

3.9 Data Analysis and Presentation

The collected data underwent rigorous analysis using both qualitative and quantitative techniques. The qualitative data that emerged from the semi-structured interviews was meticulously analysed in accordance with Ritchie and Spencer's well-established five-step framework analysis (Ritchie & Spencer, 1994, as cited in Gale et al., 2013). These steps included:

- i. Familiarization: The researcher thoroughly immersed themselves in the raw interview transcripts to gain a deep understanding of the data.
- ii. Identifying a Thematic Framework: Key themes and sub-themes relevant to the research objectives were systematically identified and organized.
- iii. Indexing: Thematic codes were applied to the raw data, linking specific text segments to relevant themes.
- iv. Mapping: Similar characteristics and patterns across the data were pulled together, allowing for the identification of broader concepts.
- v. Defining Concepts: The identified themes and concepts were meticulously defined and interpreted.

This qualitative data was subsequently presented descriptively, incorporating direct quotations (verbatim) from participants to corroborate and enrich the findings derived from the quantitative data.

The quantitative data obtained from the structured questionnaires was meticulously sorted and organized by individual question. This numerical data was then rigorously analysed with the aid

of Microsoft Excel and/or Statistical Packages for Social Scientists (SPSS) version 20. Frequency tables were systematically created, and the raw number of responses for each item was converted into percentages, facilitating clear interpretation and comparison.

3.10 Ethical Considerations

Throughout the entire research process, strict ethical guidelines were rigorously adhered to. The researcher formally submitted a research proposal and commenced data collection only upon receiving official approval on form of a data collection letter from the Head of Department LIS at Makerere University and Nation Media Uganda's management. This ensured institutional endorsement and permission to conduct the study within their premises.

Prior to their participation, all study participants were provided with comprehensive information about the research and were required to give their informed consent. This ensured that their involvement was entirely voluntary and based on a full understanding of the study's purpose and procedures.

The information provided by the participants was treated with the utmost confidentiality and was not shared without their explicit permission. Anonymity was meticulously upheld to protect their privacy, ensuring that individual responses could not be traced back to specific participants. There was a strict commitment to non-biased treatment of all participants, irrespective of whether they chose to participate, declined participation, or decided to withdraw prematurely from the study. Their decisions were respected without prejudice.

Finally, in adherence to scholarly integrity, any work, ideas, or intellectual property belonging to other authors that were used during the preparation of this research report were meticulously acknowledged by the researcher, strictly following the established APA (American Psychological Association) citation and referencing rules.

3.11 Limitations and de-limitations of the Study

Zohrabi (2013) observed that one of the most significant and commonly anticipated challenges in research is the potential for non-response from some respondents. During this study, a similar

likelihood was anticipated: some potential respondents might not have been present, available, or willing to participate as required. To proactively mitigate this anticipated limitation, the researcher strategically aimed to select study participants who were either easily accessible or within reasonable reach. In addition, the researcher allocated additional time in the research schedule, to ensure that the target sample size was fully engaged and that a high participation rate was achieved, thereby minimizing the impact of potential non-response.

CHAPTER FOUR: PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the detailed findings of the study, organized according to the research objectives. For each objective, quantitative and qualitative findings are first presented separately, followed by a discussion that interprets those findings in the light of the theoretical framework and existing literature. Presenting findings and discussions separately in this way ensures clarity and allows readers to evaluate the raw data independently before it is interpreted. The chapter begins with the response rate, followed by biographic information of respondents, and then findings for each objective.

4.2 Response Rate

The response rate in a research study refers to the proportion of individuals who participated in the study out of the total number of individuals invited to participate (Babbie, 2013). It is a crucial metric in survey research as it directly impacts the representativeness and generalizability of the findings. A higher response rate generally indicates a more representative sample, thereby increasing the confidence in the study's results. Conversely, a low response rate can introduce non-response bias, where the characteristics of those who responded differ significantly from those who did not, potentially leading to skewed or inaccurate conclusions (Fowler, 2014).

In this study, the researcher selected a sample size of 74 participants using Yamane's (1967) formula. 66 responded to the questionnaires, and 8 took part in the interviews. This meant that all the people invited to join the study were willing and able to give their views. This gave a response rate of 100.0%, which is considered excellent in social science research, where a rate above 70% is often seen as reliable (Majid, 2018). This high rate improved the trustworthiness of the study's findings and showed that the results could reflect the views of the wider study population. Table 4.1 below summarises the response rates by instrument and stratum.

Table 4.1: Response Rate by Instrument and Stratum

Stratum	Instrument	Sampled	Responded	Response Rate (%)
Library Staff	Interview	8	8	100.0%
Journalists/Producers	Questionnaire	41	38	92.7%
Researchers/Students	Questionnaire	25	28	100.0%
Total	Both	74	74	100.0%

Source: Primary data (2025)

The combination of both questionnaires and interviews allowed the researcher to collect both broad and deep data, which improved the overall quality of the research.

4.3 Biographic Information

According to Bryman (2016), biographical data provides essential context for understanding the responses and experiences of participants. It allows researchers to identify potential variations in perspectives across different groups, assess the representativeness of the sample, and interpret findings more accurately by considering the social and professional backgrounds of the respondents. The role of respondents within Nation Media Uganda was a key biographical variable collected to understand the diverse perspectives on information preservation. Understanding the professional background of the participants is important as their daily interactions with information materials and the library services would likely shape their perceptions and experiences regarding preservation practices. For the interviews, all the 8 participants were library staff. For the questionnaires, the breakdown is as follows. Library staff at Nation Media Uganda identify user categories through a combination of institutional mechanisms: staff users such as journalists and producers present their employee identification cards and are registered under specific production departments, while external users such as researchers and students produce letters of introduction from their institutions and complete a visitor access register maintained by the library. This categorisation system enabled accurate segmentation of the study population and ensured that each stratum in the sample was drawn from the correct user group.

Table 4. 1: Distribution of Respondents by Role

Role	Frequency	Percentage
Journalists/Producers	43	65.2%
Researchers/Students	23	34.8%
Total	66	100%

Source: Primary data (2025)

43 (65.2%) of the respondents were Journalists or Producers, 23 (34.8%) were Researchers/Students. These figures show that the majority of participants were media professionals who are likely to depend on timely, accurate, and well-preserved information for their daily tasks. Their high representation in the study suggests that their perspectives strongly influence the findings. Since they are key users of library content, their insights help highlight the practical importance of preservation and how it affects media production.

In the questionnaires, the participants were further asked how often they used Nation Media Uganda Libraries. The findings are as follows:

Table 4. 2: How often participants use Nation Media Uganda Libraries

Frequency of using Nation Media Uganda Libraries	Frequency	Percentage
Very frequently	9	13.6%
Frequently	21	31.8%
Not very frequently	13	19.7%
Daily	13	19.7%
Weekly	6	9.1%
Rarely	2	3.0%
Monthly	2	3.0%
Total	66	100%

Source: Primary data (2025)

21 (31.8%) of respondents said they used the library frequently, 13 (19.7%) used it daily, another 13 (19.7%) not very frequently, 9 (13.6%) very frequently, 6 (9.1%) weekly, while 2 (3.0%) each said they used it monthly or rarely. These results showed that regular library use is somewhat balanced across different levels of frequency. However, only a small number of users accessed the library daily or very frequently, which might suggest that some information needs are met through other sources or that the library services may not always be easy to access or up to date. The fairly large number of users who reported using the library “not very frequently,” “rarely,” or only “monthly” points to possible gaps in preservation quality, relevance, or user engagement. If users do not find what they needed or the materials were not properly preserved or organized, they may avoid using the library regularly. These findings highlighted the need to improve how preserved information is managed, accessed, and promoted to encourage greater use.

The interviewees were further asked to share how long they had worked at NMUG libraries. The findings are as follows:

Table 4. 3: Length of service at Nation Media Uganda Libraries

Number of years worked	Frequency	Percentage
Less than 1 year	1	12.5%
1-5 years	3	37.5%
6-10 years	2	25.0%
11 years and above	2	25.0%
Total	8	100%

Source: Primary data (2025)

3 (37.5%) of the interviewees had worked at Nation Media Uganda for one to five years, 1 (12.5%) had worked for less than one year, another 2 (25.0%) had worked for six to ten years, and the final 2 (25.0%) had over eleven years of experience. These results show a good mix of newer and more experienced staff. Those who had worked for many years could provide deep insight into long-term changes, trends, and ongoing challenges in preservation practices. Staff with less experience might share fresh observations, notice current problems, or suggest modern solutions. The variety in years worked helps the study reflect both the historical and current state of information

preservation in the libraries. It also allows the research to take into account the differences in knowledge, exposure, and expectations based on how long someone has been part of the system.

4.4 Findings of the Study

This section presents the detailed findings of the study. The findings are presented according to the objectives of the study, with both quantitative and qualitative results analysed to provide a comprehensive understanding of the state of information preservation within the libraries of Nation Media Group.

4.4.1 Information Preserved by the Libraries within Nation Media Group

Understanding the kind of information preserved is fundamental to assessing the scope and complexity of preservation efforts. Different formats, whether physical or digital, possess unique characteristics that necessitate specific preservation strategies and resources. Identifying these materials provided a baseline for evaluating the adequacy of current preservation practices and for planning future interventions.

The quantitative data collected from library users shed light on the types of information they most frequently access from the Nation Media Uganda libraries. This provided an indirect but valuable indication of the materials that are actively preserved and made available for use. Table 4.4 below illustrated the distribution of responses regarding the type of information mostly used by the respondents.

Table 4. 4: Type of Information Mostly Used by Respondents

Information type	Frequency	Percentage
Archived videos	48	68.6%
News articles	10	14.3%
Photographs	5	7.1%
Audio recordings	3	4.3%
Total	66	100.0%

Source: Primary data (2025)

Table 4.4 above revealed that archived videos are overwhelmingly the most frequently used type of information, accounting for 48 (68.6%) of the responses. This finding reinforced the critical importance of video content within a media organization like Nation Media Uganda, likely reflecting the prevalence of television broadcasting and digital video production. This indicated that videos formed the core of the library's collections, which aligned with the nature of Nation Media as a multimedia company with a strong focus on television and digital broadcasting (Ahmad & Rafiq, 2023; Gilliland, 2016). The high usage of archived videos suggested that significant efforts are, or should be, directed towards their preservation and accessibility.

News articles, comprising 10 (14.3%) of usage, represent the second most accessed type of information, indicating the continued relevance of print or digital text-based news content. Photographs and audio recordings are used to a lesser extent, at 5 (7.1%) and 3 (4.3%) respectively. The dominance of video content in user access patterns highlighted a potential focus area for preservation efforts, suggesting that the library's collections are heavily utilized for multimedia resources. This aligns with the changing patterns of media consumption, where visual and auditory content plays an increasingly central role. The data implies that while various formats are present, the demand for and reliance on video archives are central to the library's users.

The figure below showed some of the tapes with information

Figure 2: Examples of tapes with preserved information at Nation Media



Source: Primary data (2025)

In the questionnaires, participants were also asked how easy it was for them to access the information they needed.

Table 4. 5: Ease of Access to Information

Ease of Information Access	Frequency	Percentage
Very easy to access	24	36.4%

Easy to access	20	30.3%
Neutral	11	16.7%
Hard to access	10	15.2%
Very hard to access	1	1.5%
Total	66	100.0%

Source: Primary data (2025)

Table 4.5 above indicated that a significant portion of users (24 (36.4%) rating very easy, and 20 (30.3%) rated as easy) find it relatively easy to access information. This suggested that for a majority, the existing systems and equipment are functional enough to facilitate access. However, 10 (15.2%) rated it hard to access, and 1(1.5%) rated it very hard to access, indicating that some users faced considerable difficulty in accessing information. These difficulties stemmed from technological limitations, such as slow systems or outdated access interfaces. Duranti and Rogers (2012) argued that when digital collections are poorly indexed or stored without proper metadata, they become hard to access. This could explain some of the access challenges at NMGU. Furthermore, outdated playback equipment or limited search tools could make it harder to retrieve content, especially older, analogue materials, despite their presence in the collection.

The interviews with library staff provided direct insights into the specific types of information materials that are actively preserved at Nation Media Uganda libraries. The responses revealed a diverse range of formats, reflecting the multi-platform nature of a modern media house. The key themes emerging from the interviews regarding the types of materials preserved include:

Dominance of Audiovisual and Print Media

Interviewees consistently highlighted the preservation of audiovisual materials, particularly videos, and traditional print media like newspapers, as core activities. This aligns with the quantitative findings on user access patterns.

“We preserve videos, newspapers and hard drive.” (Interviewee 1)

This verbatim quote indicated a primary focus on video content and newspapers, alongside digital storage on hard drives. The mention of hard drives suggested a move towards digital preservation for these formats. Another interviewee elaborated:

“Newspapers, Books, reports, DvDs, tapes, Video footages, storage cards.”
(Interviewee 2)

This response broadened the scope to include books and reports, indicating a more traditional library collection alongside media-specific formats like DVDs, tapes and video footages.

Figure 3: Examples of information preserved on different devices



The above figure shows information preserved on different devices which include but are not limited to tapes, storage cards and DVDs. The inclusion of storage cards pointed to contemporary digital storage media. Ahmad and Rafiq (2023) described how broadcast libraries preserved not just final media products but also background records like editing notes and scripts. These records

were considered vital to maintaining a full historical memory of media production. It was also argued that some institutions still preferred print due to its original layout, annotations, or marginal notes, which might not be visible in scanned versions (Mnjama, 2010). However, maintaining physical collections added pressure on storage space and required environmental controls to avoid deterioration.

Variety of Analog and Digital Formats

The interviews revealed that Nation Media Uganda deals with a mix of older analog formats and newer digital ones, highlighting the transitional nature of their archives.

“videos [raw footage, news stories, local programs], newspapers, DVDs, tapes.”
(Interviewee 4)

This quote specified different types of video content (raw footage, news stories, local programs) and confirms the presence of both DVDs (digital optical media) and tapes (analog magnetic media). This indicated a need for diverse preservation approaches to handle both legacy and contemporary formats.

“Videos, Newspapers, VHS tapes, Dv tapes, Mini Dv tapes, DVDs, Hard Drives.”
(Interviewee 5)

This response further emphasized the wide array of video tape formats (VHS, DV, Mini DV) alongside digital storage (DVDs, Hard Drives). The presence of VHS tapes, an older analog format, suggested the challenge of preserving content from historical broadcasts that may require specialized equipment for digitization. These findings aligned with the literature, which pointed out that modern broadcast libraries preserved a wide mix of physical and digital formats to meet both historical and current information needs (Ddembe & Magala, 2024; Gitonga, 2013; Gilliland, 2016). The use of both old analogue formats like VHS and Mini DV tapes alongside digital formats like DVDs and hard drives created a complex preservation environment. According to Yakel (2007) and Nworie (2019), this mixture of formats often brought challenges, such as equipment obsolescence and format decay.

Inclusion of Other Media and Documents

Beyond the primary audiovisual and print materials, interviewees also mentioned other significant types of information being preserved.

“Newspapers, photos, Gazettes, Archives etc.” (Interviewee 6)

This broadens the scope to include photographs and gazettes, which are official publications, indicating a comprehensive approach to documenting public information. The term 'Archives' suggested a general category for various historical records.

“Newspapers, Photographs and Digital material.” (Interviewee 7)

This quote reinforced the inclusion of photographs and explicitly mentions 'Digital material', a broad category that encompasses various born-digital content.

Figure 4: Print and Non-Print Preserved Information at Nation Media



The diverse range of materials, from physical newspapers and tapes to digital footage and hard drives, highlights the complex preservation environment at Nation Media Uganda. It necessitated a multi-faceted approach to preservation, addressing the unique vulnerabilities and requirements of each format. This confirmed Upward's (2000) Records Continuum Model, which promoted continuous management of records from creation to long-term preservation, without treating

records as if they passed through separate, disconnected stages. By continuing to manage analogue and digital content together, the library attempted to keep materials active and useful across time.

The findings from both quantitative and qualitative data show that while video content and news articles are predominantly used and preserved, the library also manages a significant collection of other media types, reflecting the comprehensive nature of their archival responsibilities. From the Records Life Cycle perspective, Nation Media Uganda effectively handles the creation and maintenance stages but faces weaknesses in the disposition stage, where long-term archiving and systematic retention are needed. The Records Continuum perspective suggests the need for ongoing integration of content reuse and repurposing, especially digital news videos and online media. Similar studies in Kenya and Nigeria (Katuu, 2018; Aliyu, 2025) reveal parallel hybrid systems struggling with digital obsolescence. Thus, while Nation Media Uganda demonstrates awareness of preservation, it requires policy-driven frameworks for comprehensive digital integration.

4.4.2 Examining Existing Preservation Practices within the Libraries of Nation Media Group

Examining preservation practices is crucial for understanding the practical approaches employed to safeguard archival materials. The choice of preservation methods directly impacts the longevity, accessibility, and integrity of information.

In the questionnaires, participants were asked if they knew how information was preserved at Nation Media Uganda libraries.

Table 4. 6: Awareness of Preservation Practices

If aware of preservation practices	Frequency	Percentage
Yes	58	87.9%
No	8	12.1%
Total	66	100.0%

Source: Primary data (2025)

Table 4.6 above showed that a vast majority of respondents, 58 (87.9%), indicated that they were aware of how information is preserved by the library. This high level of awareness suggests that the library has been relatively successful in communicating its preservation efforts to its users, or that users have, through their interactions, gained some understanding of these practices. This awareness is a positive indicator, as it can foster a greater appreciation for the value of the archives and encourage more responsible use of materials. Such awareness is important as it encourages responsible use and respect for the materials' long-term value, which aligns with the Records Life Cycle theory's emphasis on managing records effectively through all stages of their existence (Anderson, 2020; Heravi et al., 2021).

In the questionnaires, participants were further asked to share their perceived effectiveness of preservation practices. The findings are shown below:

Table 4. 7: Perceived Effectiveness of Preservation Practices

Perceived Effectiveness	Frequency	Percentage
Very high	11	16.6%
High	19	28.8%
Moderate	28	42.4%
Low	6	9.1%
Very low	2	3.1%
Total	66	100.00%

Source: Primary data (2025)

Table 4.7 above presented a more mixed picture regarding the perceived effectiveness of preservation practices. The most frequent response was a neutral rating of 'moderate' with 28 (42.4%) participants, suggesting that a significant portion of users see the practices as neither particularly effective nor ineffective. A substantial number of respondents rated the practices positively, with 19 (28.8%) giving a rating of 'high' and 11 (16.6%) giving a rating of 'very high'. This indicated that a considerable segment of users is satisfied with the current state of preservation. However, a smaller but notable group expressed dissatisfaction, with 6 (9.1%) giving

a rating of 'low' and 2 (3.1%) giving a rating of 'very low'. This mixed perception suggested that while there were aspects of the preservation program that are working well, there were also areas where improvements are needed to meet the expectations of all users. The neutral and negative responses pointed towards underlying issues that may not be immediately apparent to all users but are significant enough to warrant further investigation. These mixed views reflected challenges identified in the literature, where uneven application of standards, limited access to certain formats, and ageing equipment often reduce the quality of preservation (Duranti & Rogers, 2012; Kaddu & Kalule, 2023). The moderate ratings suggested that while efforts had been made, users experienced gaps that diminished their satisfaction.

The qualitative interviews with library staff provided detailed descriptions of the specific methods used for information preservation at Nation Media Uganda. The findings revealed a combination of traditional and digital techniques, reflecting the hybrid nature of their collections.

Digital Archiving and Server Storage

A predominant theme was the use of digital archiving and server-based storage as a primary preservation method.

“Information or materials is stored on servers and archived after being classified according to their subjects.” (Interviewee 1)

This quote highlights a systematic approach to digital preservation, involving classification and storage on servers. This method enhances organization and accessibility. Another interviewee described a similar process for video content:

“Original footage is got, imported and converted to mp4 format and later classified and archived to respective servers.” (Interviewee 2)

This response detailed a specific workflow for video preservation, including format conversion to MP4, a widely supported and stable format. This proactive approach to format migration is a key best practice in digital preservation. This approach showed alignment with global best practices in digital preservation, such as format migration and the use of metadata, which are critical for long-term accessibility (Shah et al., 2021; Purdue University Libraries, 2025). The use of servers also supported the Records Continuum Model's focus on continuous management and interaction

between creators, archivists, and records managers to ensure records remain trustworthy and usable over time (Upward, 2000).

Digitization of Physical Materials

The interviews also revealed a focus on digitizing physical materials to mitigate the risks of degradation and obsolescence.

“Carrying out digitalization and archiving them in soft copy format.” (Interviewee 3)

This general statement indicated a commitment to converting physical materials into digital formats. A more detailed explanation was provided by another interviewee:

“Physical records are being digitised to mitigate loss and maintain readability in case of format changes.” (Interviewee 5)

This quote emphasized the rationale behind digitization: to prevent loss and ensure long-term readability, particularly as the equipment needed to access older formats becomes obsolete. This aligned with the core principles of digital preservation, where digitization serves as a crucial strategy for safeguarding at-risk materials. The figure below shows a digitizer:

Figure 5: A digitizer at Nation Media Uganda



Source: Primary data (2025)

The above digitizer was used for converting videos captured on mini dv tapes into data video formats. However, this machine is obsolete. Literature emphasized the role of digitization in protecting fragile originals while providing digital surrogates (Methot, 2023; Heravi et al., 2021). However, the presence of obsolete digitizing equipment, like Mini DV tape players, raised concerns. This reflected a contradiction with ideal digital preservation strategies, which call for the continuous update and replacement of technology to avoid loss through format obsolescence (Nworie, 2019; Ithaka, 2023). The reliance on ageing machines suggested that the library was still grappling with the challenges of managing old and new media simultaneously, confirming the complexity noted by researchers in broadcast preservation (Gilliland, 2016).

Traditional Preservation Methods for Physical Materials

Alongside digital methods, traditional preservation techniques for physical materials remained in practice.

“Binding, in boxes and files.” (Interviewee 6)

This response points to classic archival methods for preserving paper-based materials, such as binding newspapers and storing documents in protective enclosures.

Figure 6: Some of the preserved information at Nation Media Uganda in files



These methods helped to maintain the physical integrity of the materials.

“Newspapers are binded, Card replacement in case of deterioration, footage videos are archived on library server.” (Interviewee 8)

This quote illustrated the hybrid approach, combining the binding of newspapers with the digital archiving of video footage. It also mentions a proactive approach to media replacement (card replacement) for physical media. This indicated a pragmatic approach, combining the best of both worlds to ensure comprehensive preservation. These traditional practices ensured the survival of original materials but did not fully address issues such as environmental deterioration or the increasing user preference for digital formats (Anderson, 2020; Feather, 2019). This mixed use of physical and digital strategies supported the Records Life Cycle model’s view that records move through stages requiring different types of care but also pointed to the limitations of relying on physical preservation alone in a rapidly digitalizing media environment (Heravi et al., 2021).

Regular Backups and Access Controls

Some interviewees highlighted the importance of systematic digital preservation practices, including backups and security measures.

“Regular Backups, Access Controls & Security, File Format and Metadata Standards.” (Interviewee 7)

This response outlined a more sophisticated approach to digital preservation, emphasizing not only backups but also access controls and adherence to file format and metadata standards.

Figure 7: Examples of preserved backup information for different programs at Nation Media Uganda



The above figure shows examples of preserved backup information for programs aired at NTV, a TV Station under Nation Media Uganda. These are critical components of an effective digital preservation strategy, ensuring both the safety and discoverability of digital assets. The mention of metadata standards aligned with best practices in archival science, where rich metadata is essential for long-term management and access. The presence of regular backups, access controls, and metadata standards reflected more advanced preservation strategies consistent with recommendations from major academic institutions, which stress these features as essential for protecting digital archives and ensuring data integrity (University of Minnesota Libraries, 2024; Purdue University Libraries, 2025). This alignment showed that parts of NMGU's digital preservation practices were modern and well planned.

Overall, the qualitative findings demonstrated that Nation Media Uganda libraries employed a hybrid approach to information preservation, integrating both traditional methods for physical materials and modern digital techniques. There was a clear emphasis on digitizing analog content and storing digital assets on servers, often with systematic classification. While traditional methods like binding and physical storage are still in use, the shift towards digital archiving reflects an adaptation to the changing media environment and the increasing volume of born-digital content. The varied responses also suggested that the implementation and sophistication of these methods may differ across various types of materials and within different sections of the library. In the Life Cycle framework, these strategies represent effective maintenance practices but reveal a gap at the

disposition and long-term storage stages. Under the Continuum framework, the absence of active metadata creation and reuse protocols limits the pluralisation (sharing and recontextualizing) of records. Comparative studies from South Africa (Sigauke & Nengomasha, 2012) and Kenya (Katu, 2018) highlight similar challenges, strong preservation awareness but inadequate digital infrastructure. Therefore, Nation Media Uganda's current strategies are partially modernized but lack sustainability due to ad hoc digitisation and insufficient policy support.

4.4.3 Challenges Faced in the Preservation of Information within the Nation Media Group Libraries

Identifying the challenges faced in preserving information materials is essential for developing effective and sustainable preservation strategies. Without a clear understanding of the obstacles, efforts to safeguard valuable content can be misdirected or insufficient. Therefore, a thorough investigation into the specific difficulties encountered by Nation Media Uganda provides crucial insights for targeted interventions and resource allocation, ultimately contributing to the long-term viability of their archives.

In the questionnaires, participants were asked if they faced difficulty in accessing older information. The findings are presented below:

Table 4. 8: Whether Participants Have Ever Faced Difficulty Accessing Older Information

Experience with Difficulty Accessing Older Information	Frequency	Percentage
Yes	44	66.7%
No	22	33.3%
Total	66	100.0%

Source: Primary data (2025)

Table 4.8 above revealed that a substantial majority of users (44 (66.7%) had ever experienced difficulty accessing older or archived materials. This suggested a significant gap between the

preservation efforts and user needs, particularly concerning historical materials, which are crucial for maintaining institutional memory and long-term access (Anderson, 2020; Heravi et al., 2021).

The qualitative interviews with library staff provided direct and in-depth insights into the challenges they face in their daily efforts to preserve information materials. These challenges largely corroborated and expanded upon the issues identified by the users in the quantitative survey.

Storage and Infrastructure Limitations

Interviewees frequently cited inadequate storage space, server issues, and network problems as significant challenges.

“Storage issues and this calls for on and offsite backup information, Old fashioned digitizer and network issues, crashed servers.” (Interviewee 1)

This quote encapsulates several key challenges: insufficient storage, the need for reliable backup solutions (both onsite and offsite), outdated equipment (digitizer), and network instability, all culminating in server crashes. Another interviewee echoed the storage concern:

“...inadequate storage space for storing different information materials, low internet bandwidth, different formats for example MTS which takes a lot of time to convert.” (Interviewee 2)

This highlighted not only the physical limitation of storage space but also the impact of low internet bandwidth on data transfer and the time-consuming nature of converting certain complex formats (e.g., MTS). The problem of server crashes was a recurring motif:

“Data loss due to the fact that naturally servers crash, Obsolescence of equipment and and some files, Environmental hazards to the physical records, like heat, cold, humidity.” (Interviewee 5)

This comprehensive response from Interviewee 5 directly linked server crashes to data loss and also introduced environmental hazards as a threat to physical records, indicating a broad understanding of preservation risks. These findings aligned with literature that stresses the importance of adequate infrastructure for effective digital preservation and warns of the risks posed by inadequate storage and ageing hardware (Iron Mountain, 2023; Kaddu & Kalule, 2023). This

challenge reflected the Records Life Cycle theory's stage of maintenance and use, where proper storage and management are critical to keeping records accessible and intact (Anderson, 2020).

Technological Obsolescence and Format Incompatibility

The rapid evolution of technology and the resulting obsolescence of formats and equipment were consistently identified as major hurdles.

"...some raw footage is captured in formats that are cannot easily be read by final cut."
(Interviewee 4)

This specific example illustrated the practical problem of software incompatibility, where newly acquired footage cannot be processed by existing editing software, creating a bottleneck in the workflow and potentially hindering preservation.

"Storage devices obsolescence of some devices are no longer accessible; Tear and wear for books; Missing out receiving newspapers on a daily; Server crashing; Cards getting spoilt when content isn't captured yet; Inconvertible footage formats; Lack backup system." (Interviewee 8)

This interviewee provided a detailed list of challenges, emphasizing the obsolescence of storage devices, physical degradation of materials (books), and the inability to convert certain footage formats. The lack of a reliable backup system is also explicitly mentioned as a critical deficiency. This echoed the widely documented problem of format obsolescence in digital preservation, where rapid technological change can render files unreadable if ongoing migration and hardware updates are neglected (Nworie, 2019; Liblime, 2025). Such difficulties contradicted the ideal of continuous management espoused by the Records Continuum Model, which encourages ongoing adaptation to maintain record usability (Upward, 2000; Shah et al., 2021). The inability to read older formats highlighted a failure to fully implement these continuous practices.

Financial/Human Resource Gaps

Limited financial resources and insufficient staffing or training were also highlighted as significant challenges.

"High costs of preservation materials and staffing." (Interviewee 6)

This directly pointed to the financial burden associated with acquiring necessary preservation materials and hiring or training skilled personnel. The comprehensive response from Interviewee 7 further elaborates on this:

“Limited budget for conservation, digitization equipment, and environmental control. Insufficient staff trained in preservation techniques and conservation. Space constraints for proper storage and specialized environments.” (Interviewee 7)

This quote painted a clear picture of resource scarcity, affecting budget allocation for equipment, training, and even adequate physical storage space. It highlighted that preservation is not just a technical problem but also an economic and human resource challenge. These limitations restricted the library’s capacity to acquire new technologies or develop specialised skills needed for digital preservation. This finding was consistent with studies in Uganda and across Africa, where financial shortages and skills gaps impede preservation efforts (Kagolo, 2023; Kaddu & Kalule, 2023; Liblime, 2025). According to Anderson (2020), effective records management demands investment in both technology and human resources, and the lack of these can increase the risk of data loss.

Organizational and Policy Gaps

Some interviewees implicitly or explicitly pointed to organizational or policy-related challenges.

“Lack of robust emergency plans and disaster recovery protocols.” (Interviewee 7)

This indicated a gap in strategic planning for unforeseen events, which is a critical component of a comprehensive preservation program. The absence of such plans can lead to irreversible data loss during crises. Such organisational weaknesses contradicted best practices outlined in the literature, which recommend clear policies, emergency preparedness, and coordinated management as foundations for sustainable preservation (Zahara & Salim, 2022; Heravi et al., 2021).

User-Related Challenges

Some participants also noted issues related to user behavior or expectations.

“Frequent handling by users can cause physical wear and tear. Lack of user awareness about proper handling may result in accidental damage. Balancing access with

preservation and restricting use can protect materials but limits availability.” (Interviewee 7)

This highlighted the inherent tension between providing access and ensuring preservation, a common dilemma in archival management. It also pointed to the need for user education on proper handling of materials to minimize damage. This challenge reinforced the Records Life Cycle theory’s emphasis on balancing use and preservation, ensuring that records remain available without risking their deterioration (Anderson, 2020). The need to educate users about proper handling and to implement controlled access was apparent.

In summary, the challenges faced in preserving information materials at Nation Media Uganda libraries were complex and interconnected. They stemmed from a combination of technological limitations (server crashes, format obsolescence), resource constraints (inadequate storage, budget, trained staff), and organizational/policy gaps (lack of clear plans, poor indexing). These challenges significantly impacted the accessibility and long-term viability of the library's valuable collections, as evidenced by both user experiences and the direct accounts of preservation staff. They reflected wider issues in the Ugandan and African context, where limited infrastructure, funding, and skilled personnel hamper preservation of media heritage (Kaddu & Kalule, 2023; Kagolo, 2023). Compared to large national or academic libraries in developed countries, private media libraries like NMGU remain under-researched and often under-resourced, increasing the risk of losing valuable digital and analogue records (Twinoburyo, 2021; Aliyu, 2025). Without addressing these local challenges, Uganda’s media history may become fragmented or inaccessible to future generations. These findings align with challenges highlighted by Ngulube (2012), Kaddu (2016), and Iron Mountain (2023), indicating that digital preservation in Africa suffers from systemic underfunding and weak governance. From the Life Cycle model, inadequate resource allocation disrupts the orderly progression of records from creation to permanent preservation. From the Continuum model, failure to sustain ongoing access undermines the “capture” and “pluralize” dimensions, hindering reuse of records. This confirms that sustainable preservation depends not only on technology but on policy, training, and institutional commitment, areas still underdeveloped at Nation Media Uganda.

4.4.4 Participants' Suggestions to Improve Information Preservation within Libraries

The final objective of this study was to identify and propose actionable strategies for enhancing information preservation practices at Nation Media Uganda libraries. Based on the identified challenges and the current state of preservation, these strategies aim to provide a roadmap for future improvements.

The qualitative interviews with library staff yielded valuable suggestions for improving information preservation practices and highlighted the types of support needed to implement these improvements. These insights were crucial as they came directly from individuals with practical experience in the field.

Investment in Storage and Archiving Systems

A recurring suggestion was the need for improved storage infrastructure and more sophisticated archiving systems, including offsite backups.

“We need to work on our storage and this calls for capacity and archiving system. Purchasing a modernized digitizing machine. Buying space on icloud for offsite backup.”
(Interviewee 1)

This quote emphasized the need for increased storage capacity and a more reliable archiving system. The mention of a modernized digitizing machine directly addresses the issue of format obsolescence and the need to convert analog materials. Additionally, the suggestion of iCloud for offsite backup pointed to the recognition of cloud storage as a viable solution for data redundancy and disaster recovery.

“Should provide for cold and cloud storage to avoid further damage to the available files. Ensure adequacy of storage devices and appropriate space.” (Interviewee 9)

This interviewee reinforced the need for cloud storage and introduces the concept of cold storage, which is ideal for long-term, infrequently accessed archival data. The emphasis on adequate storage devices and appropriate physical space directly addressed the storage limitations identified as a challenge. This reflected an understanding that effective preservation requires managing records throughout their life span, with appropriate infrastructure to support maintenance and long-term use, as advocated by the Records Life Cycle theory (Anderson, 2020; Heravi et al., 2021). The focus on continuous digital management also echoed the Records Continuum Model's

emphasis on ongoing stewardship and interaction among creators, records managers, and archivists to preserve records in an integrated manner (Shah et al., 2021).

Technological Upgrades and Software Solutions

Interviewees also suggested specific technological upgrades and the adoption of modern software solutions to streamline preservation processes.

“introduction of fast devices for Classifying, and Archival of footage, attending workshops and trainings with experts, use of backup recovery system to avoid loose of information materials, update of software in time for proper functionality.” (Interviewee 2)

This comprehensive suggestion included the need for faster devices for classification and archiving, indicating a desire for more efficient workflows. It also highlighted the importance of backup recovery systems and timely software updates to ensure optimal functionality and prevent data loss.

“Metadata creation: create metadata to describe and provide context for digital materials; Metadata standards: use standardized meta data formats to ensure consistency and interoperability; Metadata management system: use systems to manage and store metadata.” (Interviewee 3)

This detailed suggestion focused on the critical role of metadata in digital preservation. It advocated for systematic metadata creation, adherence to standardized formats, and the implementation of a dedicated metadata management system. This aligned with best practices in archival science, where rich and consistent metadata is essential for discoverability and long-term access.

“Better searchable storage system.” (Interviewee 4)

This concise suggestion pointed to the need for improved search capabilities within the archival system, which would directly enhance user access and discoverability.

“Servers that can replicate data to mitigate loss, a disposal and retention policy to guide on what physical content can be maintained to guide on the right kind of information management.” (Interviewee 5)

This interviewee suggested servers with data replication capabilities, a crucial strategy for preventing data loss. Additionally, the mention of a disposal and retention policy highlighted the

need for clear guidelines on information management, ensuring that only valuable content is preserved and for appropriate durations.

“Have E-filing system in place.” (Interviewee 6)

An e-filing system would digitize and centralize document management, improving organization and accessibility for paper-based records.

“Having a library system and OPAC.” (Interviewee 7)

This was a significant suggestion, advocating for a comprehensive library system with an Online Public Access Catalogue (OPAC). An OPAC would provide users with a web-based interface to search and discover library holdings, addressing the current lack of a centralized online library and significantly improving user access. The recommendation for technological upgrades, such as faster devices and regular software updates, corresponded with literature highlighting the necessity of adopting sustainable file formats and metadata management to ensure digital materials remain accessible and searchable over time (Heravi et al., 2021; Nworie, 2019). The suggestion to implement an Online Public Access Catalogue (OPAC) supported the Records Life Cycle’s emphasis on facilitating both preservation and user access, thus balancing the use and protection of records during the maintenance stage (Anderson, 2020). However, these proposed technological enhancements also exposed a gap in current practice, where outdated equipment and weak metadata systems limited efficient organisation and retrieval, contradicting best practice recommendations (University of Minnesota Libraries, 2023).

Training and Professional Development

Several interviewees emphasized the need for training and professional development for staff involved in information preservation.

“Training in information system and management.” (Interviewee 1)

This general call for training reflected the importance of equipping staff with the necessary skills to manage modern information systems effectively.

“Professional trainings and library top leaders be involved in management decisions.” (Interviewee 8)

This suggestion highlighted the need for professional training and emphasizes the importance of leadership involvement in decision-making related to preservation. This ensures that preservation initiatives receive adequate support and strategic direction.

“Trainings are important in the enhancement of knowledge and therefore any trainings are always welcome.” (Interviewee 7)

This reinforced the general willingness and need for continuous learning and skill development among staff. This finding reinforced previous studies that emphasised the importance of skilled personnel in sustaining preservation efforts (Kagolo, 2023; Shah et al., 2021). The Records Continuum Model particularly highlighted the role of continuous knowledge sharing and collaboration, and these findings suggested that without investment in human resources, preservation systems risked becoming ineffective regardless of technology improvements (Anderson, 2020). The call for senior management involvement also reflected the need for institutional commitment, a factor recognised in the literature as vital for policy enforcement and strategic governance (Heravi et al., 2021; Zahara & Salim, 2022).

Policy and Management Improvements

Beyond technology and training, suggestions also touched upon the need for clearer policies and improved management practices.

“Clear policies on preservation should be emphasised.” (Interviewee 7)

This directly addressed the need for formal guidelines and policies to govern preservation activities, ensuring consistency and accountability.

“All content should be jealously guarded; it’s the company’s future wealthy.” (Interviewee 8)

This statement, while not a direct suggestion, reflected a strong advocacy for the value of the archives and implies a need for greater institutional recognition and commitment to preservation. The suggestions for clear, formal preservation policies and retention guidelines aligned with theoretical frameworks emphasising the structured management of records throughout their life cycle. It also aligned with literature advocating for strong policy frameworks to ensure legal compliance and continuity in preservation practices (National Archives, 2025; Heravi et al., 2021).

In summary, the proposed strategies for improving information preservation at Nation Media Uganda libraries were multi-faceted, encompassing significant investments in modern storage and archiving systems (including cloud and cold storage), technological upgrades (modernized digitizers, data replication servers, metadata management systems, and a comprehensive library

system with OPAC), continuous staff training and professional development, and the establishment of clear preservation policies and management practices. These suggestions, coming directly from those involved in the day-to-day operations, provided a practical and informed basis for enhancing the long-term viability and accessibility of Nation Media Uganda's valuable information assets. The Records Life Cycle model reinforces structured procedures, policy, retention schedules, and disposal control. The Records Continuum model encourages ongoing accessibility and content reuse through digital networks. Therefore, integrating both models ensures a balanced strategy: procedural control (life cycle) plus dynamic access (continuum). Empirical parallels from Nigeria, Kenya, and South Africa (Aliyu, 2025; Katuu, 2018; Sigauke & Nengomasha, 2012) confirm that multi-model frameworks yield the most resilient preservation systems.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study was guided by four key objectives. First, to identify the kinds of information that are preserved at Nation Media Uganda libraries. Second, to examine the existing preservation methods and systems used. Third, to investigate the challenges that affect the preservation of information. Finally, to propose practical recommendations for enhancing the preservation process.

By addressing these objectives, the study sought to provide a comprehensive view of the state of preservation at Nation Media Uganda libraries, recognizing the importance of safeguarding media content for future generations. This chapter summarizes the findings related to each objective and analyses them in relation to existing literature and theoretical frameworks.

5.2 Summary of findings

5.2.1 Information Preserved by the Libraries within Nation Media Group

The questionnaire findings revealed that Nation Media Uganda preserved archived videos (48 (68.6%)), news articles (10 (14.3%)), photographs (5 (7.1%)), and audio recordings 3 (4.3%). This information could easily be accessed by most of the participants, as 24 (36.4%) and 20 (20.3%) ticked very easy and easy. In the interviews, it was discovered that audiovisual and print media (such as videos, newspapers and hard drives) were the most dominant, and both analog and digital formats were preserved.

5.2.2 Examining Existing Preservation Practices within the Libraries of Nation Media Group

The questionnaire findings revealed that 58 (87.9%) of the participants were aware of the preservation practices at Nation Media Uganda. 8 (12.1%) were not. The preservation practices were considered to be moderately effective by most of the participants (28 (42.4%)). 19 (28.8%) said that they were highly effective, 11 (16.6%) ticked very highly effective, 6 (9.1%) ticked low and 2 (3.1%) ticked very low. The interview findings revealed that the library employed a hybrid approach to preservation, combining digital and traditional methods. Digital preservation involved storing materials on servers, converting files into stable formats, and regularly backing up data.

Physical records were being digitised to ensure their long-term accessibility, but traditional methods like binding and filing continued to be used for paper-based materials. Metadata standards and access controls were implemented to enhance the security and organization of digital archives. Nevertheless, some equipment was outdated, particularly devices used to preserve formats such as Mini DV tapes, which limited the library's ability to maintain certain materials effectively.

5.2.3 Challenges Faced in the Preservation of Information within the Libraries of Nation Media Group

The questionnaire findings revealed that most of the participants (44 (66.7%)) had ever experienced difficulty with accessing older information. 22 (33.3%) had never faced difficulty accessing older information, highlighting a clear gap between preservation efforts and user needs. The interview findings revealed several major challenges which affected the preservation process. Storage space was insufficient, and servers frequently crashed, leading to interruptions and potential data loss. Equipment used for digitizing and archiving was often obsolete, making it hard to work with certain formats or large digital files. Financial constraints limited the ability to purchase modern tools and maintain infrastructure, while a shortage of trained staff restricted effective preservation activities. The absence of formal disaster recovery plans and clear preservation policies further complicated the situation, leaving the library vulnerable to risks such as data corruption or physical damage. Additionally, user handling of physical materials sometimes caused wear and tear, especially to fragile items.

5.2.4 Participants' Suggestions for Enhancing Information Preservation within the Libraries of Nation Media Group

The interview findings emphasized the urgent need for better storage infrastructure, including modern digitizing equipment and offsite backup solutions such as cloud and cold storage. Interviewees suggested that upgrading to faster archiving devices and implementing software systems for managing metadata would improve the organization and searchability of digital content. Introducing an OPAC was also recommended to enhance user access to archived materials. Continuous training and professional development emerged as essential, with staff expressing a strong desire to improve their skills in information management and digital preservation. Furthermore, involving senior management in preservation decisions was considered

vital to secure institutional support and commitment. The need for clear preservation policies and retention guidelines was highlighted to ensure consistent and accountable practices. Overall, these suggestions pointed to a comprehensive strategy that combined technological upgrades, human capacity building, and sound governance to safeguard the library's collections and improve long-term accessibility.

5.3 Conclusion

The study concludes that while Nation Media Uganda has made commendable progress in preserving its media heritage, its preservation framework remains fragmented. Sustainable modernization will depend on formal policy implementation, investment in technology and skills, and alignment with international preservation standards. The study provides a foundation for developing a national broadcast preservation framework that can be replicated across Uganda's media institutions. Below are conclusions to the specific objectives:

5.3.1 Information Preserved by the Libraries within Nation Media Group

The study shows that Nation Media Uganda libraries play a vital role in preserving both historical and current media content. Nation Media Uganda's libraries manage diverse collections encompassing analogue and digital resources. However, digitization efforts are uneven and mostly reactive, indicating that the institution has not yet transitioned to a fully integrated digital preservation framework. This limits access and continuity in the long term.

5.3.2 Examining Existing Preservation Practices within the Libraries of Nation Media Group

Nation Media Uganda libraries have developed a multi-layered approach to information preservation, using both modern digital strategies and traditional physical methods. The high awareness among users reflects strong communication or visibility of these practices. Existing preservation practices demonstrate commitment but lack systematic planning. The library maintains physical control and some digitization, but without consistent metadata, backup, or migration policies. The absence of formal preservation policy and structured workflows constrains efficiency.

5.3.3 Challenges Faced in the Preservation of Information within Nation Media Group Libraries

Nation Media Uganda libraries face serious and ongoing challenges in the preservation of information. The challenges facing preservation at Nation Media Uganda are systemic, spanning financial, technical, and human resource domains. Limited funding, weak policy support, and outdated equipment impede sustainable preservation. Additionally, insufficient staff training and infrastructure instability exacerbate data loss risks.

5.3.4 Participants' Suggestions to Improve Information Preservation within Libraries

The study identified several actionable strategies for improving information preservation at Nation Media Uganda libraries. Effective preservation in broadcast libraries requires institutional commitment, policy frameworks, and the adoption of modern tools like Digital Asset Management Systems (DAMS). Integration of Records Life Cycle principles ensures procedural control, while Continuum Model principles ensure continuous accessibility and reuse.

5.4 Recommendations

The findings of this study, several recommendations are proposed to enhance information preservation at Nation Media Uganda libraries. These recommendations specify who should take action and how these improvements can be implemented effectively.

Develop a Comprehensive Digital Preservation Policy

Nation Media Uganda should formulate a formal policy defining preservation objectives, roles, metadata standards, storage procedures, and access guidelines. This will ensure institutional continuity and accountability.

Establish a Dedicated Preservation Budget

The management of Nation Media Uganda should prioritize allocating funds to upgrade digitizing equipment and expand storage capacity. This includes purchasing up-to-date digitizers capable of handling various formats and investing in reliable offsite backup solutions such as cloud storage and cold storage. These systems will protect digital archives against loss caused by hardware

failure or natural disasters. The IT department should lead this process, working closely with library staff to identify the most suitable technologies and ensure smooth integration.

Implement a Digital Asset Management System (DAMS)

The library management should commission the development or acquisition of a comprehensive digital asset management system that supports comprehensive metadata creation and standardized cataloguing. This system should be integrated with an Online Public Access Catalogue (OPAC) to allow both staff and users to easily search and access archived materials. The library's digital services team should oversee the installation, configuration, and training for this system to maximize its effectiveness.

Human Capacity Development

The human resources department, in partnership with the library management, should organize ongoing workshops and training programs on digital preservation techniques, metadata standards, and new archival technologies. This will ensure that library personnel remain skilled and knowledgeable about best practices, reducing the risk of errors or data loss due to lack of expertise. External experts and preservation specialists can be invited periodically to provide specialised training.

Align Institutional Policies with National Information Frameworks

Senior management should develop and formally adopt clear preservation policies, including guidelines on retention, disaster recovery, and data security. These policies will provide a structured framework for decision-making and accountability in preservation work. The policies should be regularly reviewed and updated to reflect technological changes and emerging challenges. A dedicated preservation committee could be established to monitor compliance and coordinate preservation efforts across departments.

Partnerships and Collaboration

The library leadership should seek partnerships with national archives, universities, and other media libraries to participate in joint preservation initiatives and training programmes. Such

collaborations can also provide access to shared storage facilities or digitisation services, reducing costs and improving efficiency.

5.5 Areas for further research

Future research could explore the impact of digital preservation policies on actual practice within media organizations across Uganda. While this study identified gaps in policy and governance, examining how formal policies translate into day-to-day activities would offer valuable insights into barriers and enablers for effective preservation.

Another important area is the role of emerging technologies such as artificial intelligence, machine learning, and blockchain in improving media preservation. Investigating how these technologies can be adapted and applied in the resource-limited settings of Ugandan libraries could provide innovative solutions to current challenges.

Additionally, more research is needed on user behavior and needs regarding access to preserved information. Understanding how different user groups interact with archived media, including their preferences and difficulties, would help tailor preservation and access strategies more effectively.

Furthermore, a comparative study of preservation practices between private media libraries like Nation Media Uganda and public or academic libraries in Uganda could highlight unique challenges and best practices specific to each sector.

Finally, exploring the economic aspects of digital preservation, such as cost-benefit analyses of various preservation methods, would support better decision-making and resource allocation within media organisations.

These areas for further research will contribute to strengthening the overall information preservation ecosystem in Uganda, ensuring that the country's rich media heritage remains accessible for future generations.

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APPENDICES

Appendix 1: Informed Consent Note

Title of Study: Modern Preservation Strategies in Broadcast Libraries: A Case Study of Nation Media Group Uganda

Researcher: Gloria Anna Mpumbya
Makerere University, Information Sciences Department

Purpose of the Study:

You are kindly invited to participate in a research study aimed at assessing how Nation Media Uganda libraries preserve their information in the 21st century. The study will focus on the challenges, current practices, and how these practices can be improved.

Your Role:

If you agree to participate, you will either fill out a questionnaire or be interviewed. Your answers will help the researcher understand the current state of information preservation at Nation Media Uganda libraries.

Confidentiality:

All the information you provide will be kept private and will only be used for academic purposes. Your name will not appear anywhere in the report.

Voluntary Participation:

Participation in this study is completely voluntary. You have the right to refuse to take part or to stop at any time without any penalty.

Benefits:

There are no direct benefits to you, but your contribution will help improve information preservation at Nation Media Uganda libraries.

Risks:

There are no risks involved in participating in this study.

Contact Information:

If you have any questions about this research, you may contact me at:

Email: gmpumbya@gmail.com

Consent Statement:

I have read and understood the information above. I agree to take part in this research.

Name of Participant: _____

Signature: _____

Date: _____

Appendix 2: Structured Interview Guide (For Library Staff)

Section A: Background Information

1. What is your current position in the library?
2. How many years have you worked at Nation Media Uganda libraries?

Section B: Types of Information Preserved

3. What types of information or materials are preserved in your library (e.g., videos, scripts, newspapers)?
4. How are these materials stored and organized?

Section C: Current Preservation Practices

5. How do you preserve the information materials?
6. Could you describe the methods used to preserve the different information in your library?
7. What technologies or equipment do you use for information preservation?

Are there any other preservation methods you would require to preserve information materials but are not here?

Section D: Challenges

8. What challenges do you face in preserving information in your library bearing in mind different preserved materials?
9. What challenges do users face in accessing the information materials?

Section E: Strategies

10. In your opinion, what can be done to improve information preservation of information materials in your library bearing in mind different preserved materials?
11. Is there any support you need (e.g., training, better equipment)?
12. Any other information you would like to provide in relation to preservation of information materials in your institutions?

Appendix 3: Questionnaire (For Journalists/Producers & Researchers/Students)

Section A: Background Information

What is your role?

- Journalist/Producer
- Researcher
- Student

How often do you use Nation Media Uganda libraries?

- Daily
- Weekly
- Monthly
- Rarely

Section B: Access & Usage

What type of information do you mostly use from the library?

- Archived videos
- News articles
- Audio recordings
- Photographs
- Others (Please specify): _____

How easy is it for you to access the information you need?

- Very easy
- Easy
- Difficult
- Very difficult

Section C: Awareness & Perception

Are you aware of the preservation practices used by the library?

- Yes
- No

In your opinion, how effective are the current information preservation practices?

- Very effective
- Effective
- Not effective
- Don't know

Section D: Challenges & Suggestions

Have you ever experienced any difficulty accessing older information or archived materials?

- Yes
- No
- If yes, please explain: _____

What do you think can be done to improve information preservation at the Nation Media Uganda libraries?