

**COLLECTION MANAGEMENT FOR USER SATISFACTION AT MASINDE
MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY LIBRARY, KENYA.**

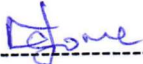
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**A RESEARCH THESIS SUBMITTED TO THE BOARD OF POSTGRADUATE
STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
MASTER OF INFORMATION SCIENCE, SCHOOL OF INFORMATION SCIENCE
AND TECHNOLOGY, KISHI UNIVERSITY**

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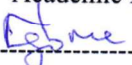
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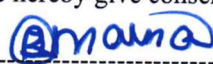
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DEDICATION

I dedicate this work to my family.

ACKNOWLEDGEMENT

All glory to Almighty God for His mercies, care, strength and provision for the successful completion of this study. Special appreciation goes to my university supervisors Dr. Jane Maina (PhD) and Dr. Ben Namande (PhD) for the support they accorded me during my study. Lastly to the Lucheli family for financial, encouragement and moral support during the time of study.

ABSTRACT

Academic libraries play a significant role in teaching, learning, and research. Similarly, collection management is essential for enhancing user satisfaction. This study investigated the influence of information resources management on user satisfaction among postgraduate students at Masinde Muliro University of Science and Technology Library. It is imperative to provide current, easily accessible and diverse information resources in a digital information age. The study sought to assess collection management on user satisfaction in MMUST Library and specific objectives on the nature of information resources, collection management policies, user satisfaction, and collection management challenges. This research relies on the Five Laws of Documentation conceived by S. R. Ranganathan in 1931. The study used a descriptive research design with 453 people targeted and a sample of 109 respondents drawn via census and simple random sampling methods. Questionnaires and interviews were used to gather data and descriptive statistics as well as thematic analysis were applied to analyze the data. The results showed that the primary goal of the study was partly attained as it was found that although MMUST Library has a good collection of both print and electronic resources, user satisfaction is only moderate because of some deficiencies. Major findings revealed a generally well-qualified and experienced library staff, leading to quality service provision. The users were highly satisfied with basic academic resources (books, journals, reference) and print as well as electronic formats. However, they are highly dissatisfied with access to current textbooks, theses, multimedia and audio-visual resources. While the library has a clear policy framework, implementation challenges such as lack of stakeholder engagement, lack of funding and poor digitization and weeding practices limit its impact. Additionally, it was found that user satisfaction depends not just on the adequacy of resources but also on accessibility, ICT facilities and responsiveness of services. The introduction of electronic systems like OPAC, institutional repository and remote access services to enhance service delivery has been hindered by factors such as inadequate budget, ICT facilities, staff and awareness of library policies. This research concludes that while MMUST Library has achieved considerable success in collection development and digitisation, the current gaps in resource adequacy, accessibility and policy effectiveness hinder optimal user satisfaction. Thus, a balanced, well-funded and user-oriented collection policy management is essential for improving user satisfaction and academic performance.

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ABBREVIATIONS AND ACRONYMS

CMPs	-	Collection Management policies
CDs	-	Compact Disks
DVDs	-	Digital Video Disks
ICT	-	Information and Communication Technology
IFLAI	-	International Federation of Library Associations and Institutions
MMUST	-	Masinde Muliro University of Science and Technology
MOPACs	-	Mobile Online Access Catalogues.
NACOSTI	-	National Commission for Science, Technology and Innovation
NGFL	-	National Grid for Learning
NRF	-	National Research Fund.
OPACs	-	Online Public Access Catalogues
ZOT	-	Zone of Tolerance

CHAPTER ONE

INTRODUCTION

This chapter presents the background of the study, statement of the problem, research objectives, research questions, significance of the study, scope and limitation of the study, assumption of the study, conceptual framework and operational of definition of terms.

1.1. Background to the Study

The management of library collections represents a fundamental component of library and information science, encompassing the processes of selection, acquisition, evaluation, preservation, and the judicious removal of materials to effectively address the informational requirements of users. The efficacy of collection management has a direct influence on user satisfaction, as individuals anticipate prompt access to pertinent, varied, and systematically arranged information resources (Evans & Saponaro, 2017). In scholarly libraries, particularly within universities, effective collection management strategies are crucial to facilitate teaching, learning, and research endeavors.

Globally, the practices surrounding collection management have undergone significant evolution, driven by the swift progress of digital technologies and the rising expectations of users. Academic libraries are transitioning from conventional print collections to digital and hybrid formats to improve accessibility and adapt to the evolving information-seeking behaviors of users (Johnson, 2018). The International Federation of Library Associations and Institutions (IFLA) posits that effective collection management must prioritize the user, ensuring that the resources procured are in harmony with the academic and research requirements of the institution (IFLA, 2022).

Research conducted by Tenopir et al. (2019) indicates that user satisfaction within academic libraries is significantly influenced by the accessibility of digital resources, the simplicity of access, and the pertinence of collections. The research highlighted that libraries incorporating user feedback into collection development and adopting user-driven acquisition models achieve elevated levels of satisfaction.

In Africa, academic libraries encounter obstacles including insufficient funding, subpar infrastructure, and a shortage of qualified staff, which impede efficient collection management and diminish user satisfaction (Ocholla & Bothma, 2019). A significant number of university libraries in sub-Saharan Africa face challenges in sustaining contemporary collections, primarily due to financial limitations and the elevated expenses associated with procuring academic resources.

A research endeavor undertaken in South Africa by Macha and De Jager (2020) underscored that user satisfaction within university libraries is significantly associated with the pertinence, availability, and timeliness of library collections. The research advocated for the collaboration of African universities via library consortia to augment access to digital resources and refine collection development strategies. Furthermore, the rise of open access initiatives in Africa has been notable, facilitating greater access to scholarly resources and elevating user satisfaction (Kakai, 2021).

In Kenya, university libraries have been diligently working to refine their collection management strategies in order to elevate user satisfaction. As noted by Makori and Njiraine (2022), the establishment of digital repositories and subscription-based electronic resources has markedly enhanced accessibility to scholarly materials. Nonetheless, obstacles such as

insufficient ICT infrastructure, constrained financial resources, and a sluggish embrace of contemporary collection management methodologies continue to endure.

An investigation conducted by Nyamboga et al. (2023) concerning Kenyan university libraries has shown that, although students and researchers value the presence of digital resources, numerous libraries continue to grapple with challenges such as obsolete print collections, ineffective cataloging systems, and insufficient user awareness initiatives. The research suggested that libraries implement evidence-informed strategies for collection development, incorporating regular assessments of user needs to guarantee that resources are in harmony with academic and research demands.

The efficiency of the collection management at Masinde Muliro University of science and technology (MMUST) plays an important role in making sure that the users students, lecturers and researchers have access to the appropriate and current information resources. Although there is continuous work to digitalize the resources and enhance the collection development, the problem of accessibility, materials sufficiency, and the efficiency of overall services still exist (MMUST Library Report, 2023). This paper thus aimed at investigating the practices of collection management and its impact on service delivery outcomes. Finally, the results will serve as an indicator to make improvements to increase the level of user satisfaction as this is one of the key measures of the quality and efficiency of library services.

1.2. Statement of the Problem

Academic libraries have been at the center stage in assisting teaching, learning, and research through provision of access to information resources that are pertinent and up to date. A

successful collection management-selection, acquisition, organization, preservation, and weeding of materials- is thus a key factor in the realization of user satisfaction and the best delivery of services. Nevertheless, research has shown that a number of academic libraries especially in the developing world like Kenya are still struggling with issues like insufficient funding, poor collection management policies and poor use of the available resources, which adversely impacts on the ultimate user satisfaction.

At Masinde Muliro University of Science and Technology (MMUST), despite extensive efforts in building library collections, institutional reports indicate a skewed focus on the use of print materials at the cost of modern digital and technology-based materials (MMUST Library Annual Report, 2020). This disequilibrium has added to the increasing mismatch between user expectations and services offered, with differences between the availability of print and electronic resources being reported by users as a key issue. This can restrict the possibility of users accessing remote electronic resources, which affects the productivity of research and academic activity.

Although there is current literature on the overall complexities of academic library management, a significant knowledge gap exists as far as the specificity of particular collection management practices (specifically, the proportion of print and electronic resources) in relation to user satisfaction in university libraries in Kenya is concerned. Most of the past studies have been conducted in a general way in terms of resource availability and utilization whereas little empirical research has been done on the effects of collection management decision on the user experience and satisfaction outcomes in institutions like MMUST. This study thus aims at filling this gap by looking at how collection management practices relate to user satisfaction in academic libraries.

1.3. Purpose

The purpose of the study was to establish the status of collection management for user satisfaction at Masinde Muliro University of Science and Technology Library, Kenya.

1.4. Specific Objectives

The study was guided by the following objectives:

- i) To assess the nature of information resources in collection management at MMUST Library.
- ii) To assess collection management policy on user satisfaction at MMUST library.
- iii) To establish user satisfaction with information resources at MMUST library.
- iv) Establish challenges facing MMUST Library in collection management.

1.5. Research Questions

The study was guided by the following research questions:

- a) What is the nature of information resources in collection management at MMUST Library?
- b) What institutional policies guide collection management at MMUST library?
- c) How satisfied are users with information resources at MMUST library?
- d) Are there challenges facing MMUST in managing a balanced library information collection?

1.6. Significance of the Study.

This research on collection management and user satisfaction in MMUST Library is important to the students, the faculty, and institutional stakeholders in the following

important ways. It is projected to increase access to pertinent, current, and well-organized library resources by students to promote better learning outcomes, academic achievement, and independent research skills. Better collection handling will mean that the students do not have any problems in finding the necessary materials which saves them time and enhances their experience in school.

In the case of faculty members, the study offers a useful idea of how library collections can be more useful to teaching, curriculum delivery and research activities. The findings will assist in eliminating lapses in the acquisition, relevancy, and resource sufficiency by the academic staff to have access to quality scholarly materials in time to prepare courses, supervise and publish them. This enhances the teaching nexus in research in the university setting.

On the institutional level, especially among the library administrators and the university management, the study provides evidence-based suggestions on how to enhance collection development policies, budgeting priorities, and resource allocation. It brings out the areas that need to be improved in the acquisition strategies and information organization, which will in turn enable more efficient and user-friendly library management system. This will eventually lead to better services delivery and institutional performance.

The study also contributes to the increasing literature on academic library management in Kenya by offering context-specific evidence of MMUST. It can be useful to researchers and policymakers who want to know the impact of collection management practices on the

satisfaction of users in institutions of higher learning particularly in the context of the developing countries.

1.7. Assumption of the Study

This research was conducted based on several fundamental premises concerning collection management and user satisfaction within the MMUST Library. Initially, it was posited that the availability, relevance, and accessibility of library resources play a crucial role in shaping user satisfaction. It is posited that proficient collection management practices, encompassing acquisition, organization, and weeding of materials, have a direct influence on the capacity of students and faculty to access and utilize information resources with efficiency. Furthermore, the research posited that users possess a variety of needs and expectations, with their levels of satisfaction being assessable through criteria such as the sufficiency of resources, accessibility, and the attentiveness of library management to issues pertaining to the collection. Moreover, it is assumed that the policies of libraries and their financial allocations significantly influence the strategies employed in collection management, which in turn impacts user satisfaction. Ultimately, the study presupposes that participants will offer truthful and precise insights concerning their experiences and perceptions of MMUST Library's collection management, thereby facilitating a valid and dependable examination of the correlation between collection management and user satisfaction.

1.8. Scope of the Study

The study focused on collection management for library user satisfaction at MMUST. The MMUST library encompasses numerous departments and sections that serve a variety of

users. However, the researcher primarily focused on information professionals (Librarians) and postgraduate students who were registered as library users. This was due to the fact that, according to the annual library report for the 2020/2021 academic year, they are the most frequent users of the library. The content scope encompassed the characteristics of information resources and their impact on user satisfaction, the degree to which the MMUST Library has adopted emerging information resources e.g. ebooks, digital repositories, digital learning platforms etc, the levels of user satisfaction with information resources and services, the institutional policy framework like open access policy, acquisition guidelines, collection development policies etc regarding library resource management, and an assessment of the challenges that MMUST encounters in managing library resources.

1.9. Limitation of the Study

Limitation refers to the constraining circumstances or restrictive deficiencies that are present in a study (Mugenda & Mugenda, 2003). A probable limitation of the study was the unavailability of certain respondents. The research primarily focused on library personnel whose demanding work schedules rendered them unable to allocate sufficient time to complete the survey. This caused a delay in data collection. This difficulty was resolved by using emails, phone call follow-ups, and research assistants to assist with field data collecting, extending questionnaire completion periods, and arranging interviews.

A potential limitation of the study is the possibility of the respondents being unwilling to give full and whole honest answers because of the fear of damaging the image and reputation of the institution. This social desirability bias may have affected the truthfulness and the level of information that was obtained using the questionnaires. To counter this

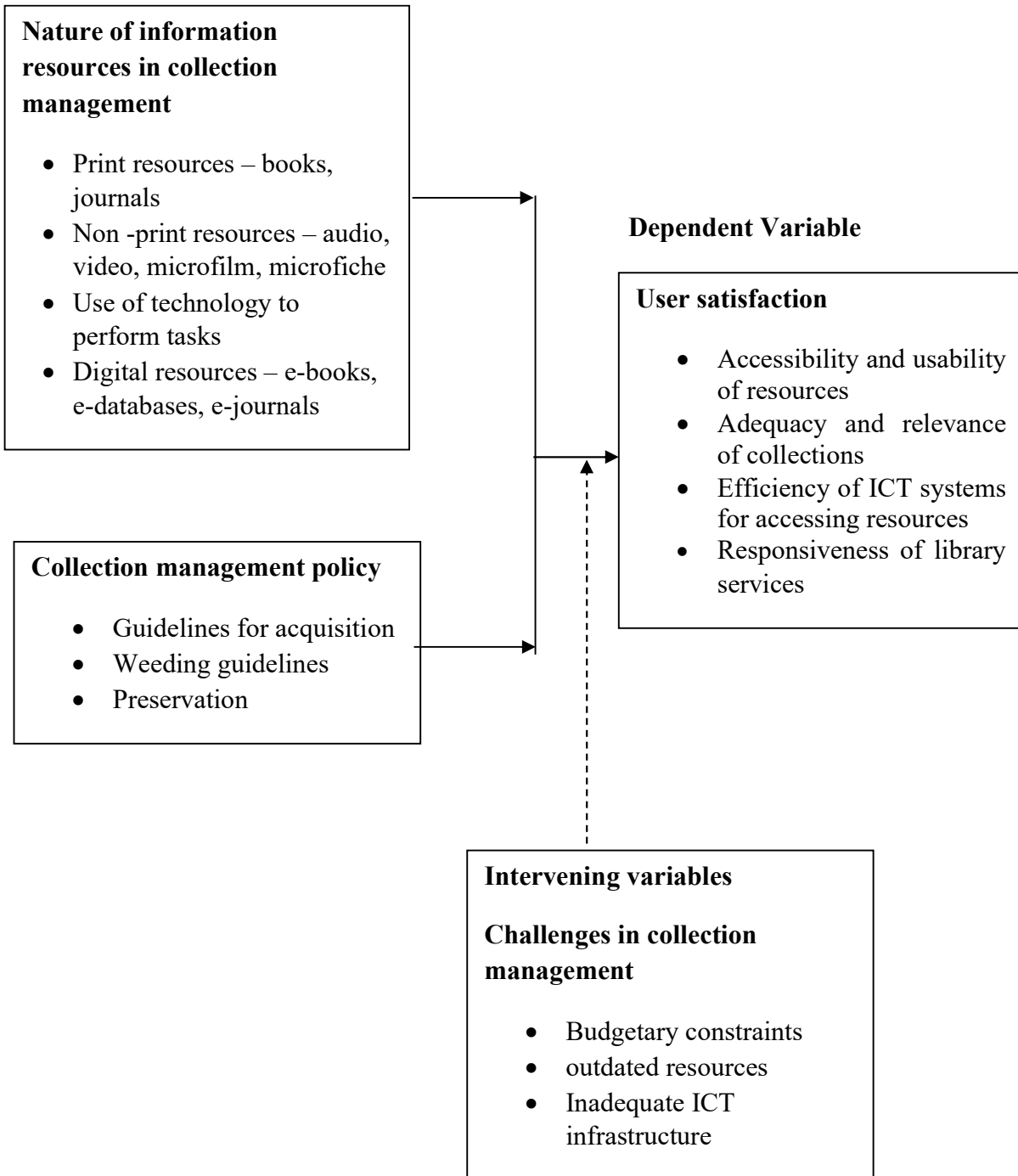
difficulty, the researcher balanced out the questionnaire responses with in-depth interviews which would enable probing, clarification and extracting other information that respondents might have avoided giving in formal answers.

1.10 Conceptual Framework

According to Varpio, et al., (2020), a conceptual framework is an analytical tool with varied ideas and contexts. It is used to make abstract distinctions and organize ideas; figure 1.1 below depicts the envisaged relationship between the independent, dependent variables.

Figure 1. 1: Conceptual Framework

Independent Variable



The conceptual framework shows that the relationship between the collection management factors (independent variables) and the user satisfaction (dependent variable) in the library service delivery is influenced by the collection management challenges (intervening variables) on the strength and direction of the relationship.

The nature of the information resources in the collection management is the first independent variable, which influences the user satisfaction in terms of the availability, the quality and form of library resources. By offering a balanced collection of print resources (books and journals), non-print resources (audio-visual and microform materials) and digital resources (e-books, e-databases, and e-journals), users can enjoy better accessibility and usability of resources. On the same note, ease of access and efficiency in retrieval is improved by the incorporation of technology in resource management and service delivery. These enhancements will lead to increased satisfaction levels as users are able to acquire the necessary information that is relevant, timely and diverse and used in academic and research purposes.

Collection management policy is the second independent variable that is also critical in user satisfaction. The acquisition, weeding and preservation policies also make sure that the library collections are up to date, relevant and organised. Good acquisition policies enhance the sufficiency and topicality of collections, whereas weeding takes away old materials that can impede its use. The policies of preservation guarantee the long-term availability of the useful resources. These practices, combined, make collections more adequate and relevant and, in turn, increase the level of user satisfaction with library services.

The user satisfaction is captured in the dependent variable where it is measured in various dimensions such as accessibility and usability of resource, adequacy and relevance of collection, efficiency of ICT system, and responsiveness of library services. The results are directly affected by the quality of the implementation of the independent variables in the library system.

Nonetheless, collection management practices do not necessarily have a direct relationship with user satisfaction and this is influenced by intervening variables. The positive effects of collection management strategies may be undermined or misconstrued by challenges in collection management like budget limitations, old resources, and poor ICT infrastructure. Indicatively, despite the existence of sound acquisition policies, resource updating may be limited by limited funds, leading to outdated collections which lower the levels of user satisfaction. Likewise, poor ICT infrastructure may slow the accessibility to digital resources, reduce efficiency and responsiveness even though there are electronic materials.

Altogether, the framework shows that, although good collection management practices have a positive effect on the user satisfaction, such an effect depends on whether there are operational issues in the library system or not.

1.11 Operational Definition of Terms

- Acquisition:** The procedure by which the library acquires information materials like books, journals and electronic materials either by purchase, subscription, exchange or donation to facilitate information needs of the users.
- Circulation:** The processes and operations of lending and returning library resources to the users such as issuing, renewing, and tracking the borrowed resources.
- Collection Assessment:** The planned review of the library collection in order to identify its relevance, sufficiency, use, and correspondence to the academic and research needs of the users.
- Collection Development:** The selection of library materials, their acquisition and maintenance to make sure that the collection fulfills the current and future needs of the users.
- Collection Management:** The general process of planning, organizing, evaluating and maintaining library resources such as acquisition, selection, weeding and preservation to provide effective service delivery.
- Compliance:** Compliance with institutional policies, copyright regulations, as well as library regulations in the acquisition, use, and management of information resources.
- Digital Preservation:** The procedure of preserving and securing digital resources to make them available and useful in the long term.
- Discarding:** The elimination of old, worn or useless materials in the library collection to keep the collection of relevant materials.

Dissemination of Information:	Distributing or making information resources available to users via different channels including lending, online access and alerts.
Due Date:	The date before which the borrowed library materials are to be returned to avoid fines.
Electronic Resources:	Digital resources available electronically such as e-books, e-journals, databases and online repositories.
Evaluation:	A method by which library resources and services are reviewed and evaluated on the basis of their effectiveness and suitability to users.
Gifts/Donations:	Donations of materials to the library, which are free, and which are evaluated prior to being added to the collection.
Holds:	The system enables users to reserve the material that they borrow to use in future when they have returned it.
Institutional Repository (IR):	An online library storing and making available the scholarly works of the university including theses, dissertations and research publications.
Legal Deposits:	Resources reported to the library by law or institutional policy to be preserved and accessed.
Library Users:	Everyone who uses the library services and resources (students, faculty, researchers, and the university staff).
Library:	A knowledge resource center inside the university that avails knowledge resources, services and facilities to aid teaching, learning and research.
Scholarly Articles:	Scholarly articles found in the journals that add to the knowledge in particular fields of study.

Selection:	The procedure of selecting the right materials to be acquired depending on their relevancy, quality, and the requirements of the users.
Staff:	The staff members at the library who manage resources, offer services and assist users.
User Satisfaction:	The extent to which users of the library believe that the resources and services provided in the library are in line with their information requirements and expectations.
Weeding:	The methodical process of eliminating old, duplicate, or unnecessary material in the library collection to enhance its utility and efficiency.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents a systematic review of literature related to information collection management in academic libraries. The review is organized thematically in line with the objectives of the study.

2.2 Theoretical Review

This research relies on the Five Laws of Documentation conceived by S. R. Ranganathan in 1931. The theory is one of the most widely accepted theories in library and information science as it provides a basic framework for the organization, management, and use of library materials. In book management, the five laws state that books are for use, every reader his book, every book its reader, save the time of the reader, and the library is a growing organism. The original design of these laws was with print collections in mind. However, many have adapted them to the contemporary library environment with electronic resources, digital repositories and information technologies.

The first law states that ‘Books are for use’ which means library materials must be easily available for use and not only stored on the shelf. This maxim aids in the carrying out acquisition, organization, preservation and provision of access to print and electronic resources. The second and third laws, which state that every reader his or her book and every book its reader, call for the building of collections which reflect the diversity of information needs of users and which can be easily found and used. User-centered collection development policies should never lose out their purpose. The fourth law states “Save the time of the reader”. It implies an efficient retrieval system. Proper cataloguing,

classification, indexing, and access mechanisms are necessary. The fifth law, which states that the ‘library is a growing organism’, acknowledged that libraries must change according to the user’s need, technology and new information resources.

The theory has been widely used in examinations of library service quality, collection development and user satisfaction. For example, Thanuskodi (2012) reports that Ranganathan’s laws are relevant in modern academic libraries in making information resources more accessible and users’ experience of libraries better. Patra (2017) discovered that the effectiveness of collection development and accessibility of resources through Ranganathan’s principles increase library usage and user satisfaction. In the context of Kenya, Ocholla (2008) and Mutula (2011) find that academic libraries with relevant, acceptable, and current collections satisfy information demand of their users more than those without such collections.

Given that collection management is the means by which the relevant information resources will be ensured accessible and responsive to the user needs, the theory is justified for the study. User satisfaction in academic libraries gets influenced by suitable resources, easier access, timely information retrieval, and capacity to cater changing academic and research needs. The dimensions directly correspond to the principles of Ranganathan’s five laws. Thus, the theory is useful in the examination of collection management practices which influence user satisfaction at Masinde Muliro University of Science and Technology (MMUST) Library.

Over the years, the theory gained criticism. The critics of the five laws hold that it is printed material-oriented and does not take care of the complexities of the digital information environment, electronic resource management and the new user behaviours. According to

scholars such as Crawford (2015), the theory focuses more on access to information resources than on other service quality aspects such as user support, digital literacy, and technological infrastructure. Further, the theory does not take into consideration the financial limitations, license agreements, technological challenges etc. which affect collection management operation of academic libraries.

Ranganathan's Five Laws of Library Science continue to be relevant because of changing times of libraries. These principles are still in place for collection development, accessibility to resources, and provision of user-centred services in traditional and digital libraries. The current study adopted the theory to provide pertinent framework for understanding how collection management practices including acquisition, organization, preservation and evaluation of information resources relate to the user satisfaction of postgraduate students at MMUST Library. The result will provide a sound theoretical framework for evaluating the contribution of effective collection management to meeting users' information needs and satisfaction with library services.

2.3 Nature of Information Resources in the library

University libraries continue to play a major role in teaching, learning, and research through access to a variety of current, well-curated information sources. Modern academic libraries should not just continue to accumulate large collections but instead, modern scholarship points to the need to create relevant, accessible, and user-focused collections which address digital transformation and interdisciplinary research requirements. An international survey by Lorcan Dempsey (2021), consisting of scholarly libraries in North America and Europe, has shown that more institutions are adopting data-led collection development designs,

where usage data and user demand influence the acquisition choices. In the same vein, an international review by the International Federation of Library Associations and Institutions (2023) found that academic libraries across the globe are shifting to hybrid collections which combines both print, non-print, and electronic materials and suggested that the library should adapt continuously to changes in technology and user demands.

2.3.1 Print Information Resources

In the world, print resources continue to play a key role in academic libraries despite the swift growth of online resources. Modern European and North American research consistently demonstrates that print materials remain vital to intensive reading, knowledge capture, and long-term academic interaction, especially in such subjects as the humanities, law, and social sciences. As an example, a study by Smith and Kaur (2022) in the United Kingdom reported that academic libraries intentionally keep strong print collections due to their scholarly reliability, stability, and technological obsolescence resistance. The research also found out that even when digital versions are accessible, users tend to use printed version when engaging in intensive reading and lengthy study time. Consequently, the authors suggested a fair hybrid model of acquisition, in which print and online resources are complementary to offer different needs of the users. Likewise, discussions on global policies facilitated by the International Federation of Library Associations and Institutions (2023) highlight that print collections are necessary to preserve the culture, integrity of archives, and equitable access, particularly to users with little or no access to digital resources.

Print materials still remain the heart of academic libraries in Africa, mainly because of the ongoing infrastructural issues, such as lack of reliable internet access, expensive electronic

subscriptions, and low levels of ICT infrastructure. A study by Adeyemi (2022) revealed that the print materials, such as textbooks, grey literature, ephemeral documents, are common and relied-upon sources of information among students and researchers. The research however, found out that most libraries experience problems regarding poor organization, ineffective cataloguing systems as well as low discoverability which greatly diminishes the usage of the resources. The study suggested reinforcing metadata standards and cataloguing practices and digitization efforts to enhance access and preservation. Moreover, larger African studies point to the fact that print collections tend to act as reserves in situations where digital structures are not dependable, supporting their further applicability in the area.

Print collections remain predominant in most academic libraries in East Africa, but there is an incremental move towards adopting digital systems. According to a study that was carried out at Makerere University in Uganda, by Okello-Obura and Magara (2008) it was established that although many electronic resources were being introduced, print materials were still the major source of information to most users especially because of the limitations in digital infrastructure and access. The research also identified that print textbooks and reference materials were very important to the students in doing coursework and examinations. It suggested a gradual transition to digitization, in which libraries enhance their digital capabilities without reducing print collections. Even more recent local developments show that print is still being useful in aiding curriculum-based learning, particularly in those institutions where access to e-resources is intermittent.

In Kenya, print materials are still applicable in academic libraries but with the advent of digital formats, they are being complemented. In a recent study conducted by Ngulube

(2020) on preservation practices in Kenyan academic libraries, it was established that most of the institutions are embracing integrated strategies aimed at combining both traditional preservation techniques and digitization strategies. These involve binding, conservation and restricted storage of print material and scanning and development of digital storage of the material. Among essential challenges that were identified in the study are a lack of sufficient funding, insufficient preservation facilities, and lack of qualified personnel, which impact proper print collection management. It advised investing more in digital repositories, preservation technologies, and staff training to guarantee sustainability and better access. Moreover, its use in Kenyan universities indicates that though students are becoming heavy consumers of e-resources, print materials are still massively consumed as a source of core textbooks and reference materials, especially in those cases when digital access is limited.

Generally, the global, African, East African, and Kenyan literature indicate that print information resources will remain an important aspect of academic libraries. Although there is evident shift to digital collections, the print resources continue to play a crucial role in archival and deep learning as well as equitable access. The present-day academic libraries, MMUST Library included, are faced with the critical challenge of finding an effective balance between having the relevant collections of print materials and finding a digital solution to the changing user expectations.

2.3.2 Non-Print Information Resources

Non-print information resources such as audiovisual resources, maps, images, and multimedia content have become an inseparable part of academic library collections around the world, in large part because of their capacity to facilitate a variety of learning styles and

user interaction. Modern studies indicate that learners are increasingly gravitating towards interactive, multimodal and especially in fields like medicine, engineering, media studies and arts. Crawford (2001) conducted a study in the United States and established that digital multimedia libraries are much more effective in enhancing accessibility and user experience by means of incorporating text, audio, video and images into single platforms. The research also determined that this type of integration enables users to engage with the content in a more dynamic way than with text based resources of traditional texts. It also however pointed to issues pertaining to the organization of content and interoperability, suggesting the use of advanced digital management tools and standardized metadata models to guarantee effective retrieval and long-term sustainability of multimedia resources.

More current world trends show that non-print resources have grown to go beyond the more conventional audiovisual sources, to interactive simulations, virtual reality (VR), augmented reality (AR), and 3D models, especially in highly-technological academic institutions. The changes have made libraries digital learning centers, promoting the experiential and self-directed learning. Nevertheless, literature points out that the challenges of managing such resources are always fraught with high costs in terms of technical infrastructure, human resources and copyright management systems and there is need to have policies which would guide the acquisition, access and preservation.

Non-print resources have become significant in Africa with institutions of higher learning in the continent aiming to modernize teaching and learning facilities. Nonetheless, their implementation is unequal in the continent because of the variations in financing, infrastructure, and technical capacity. The study carried out by Katabalwa (2016) in Tanzania revealed that postgraduate students are increasingly using multimedia and

audiovisual resources because of its relevance, flexibility, and ease of use especially in research work. It was found that students appreciated the option to get access to visual and audio materials to supplement textual data, thus improving the level of understanding and memorization. In spite of these advantages, the study revealed that there are major challenges such as lack of ICT infrastructure, lack of proper equipment and lack of technical support, which interfere with the effective use. It suggested more funds in ICT infrastructure, effective internet connectivity, and user education programs to maximize the benefits of non-print resources.

Equally, the general African studies have shown that although universities are trying to include multimedia materials in their collections, most libraries are not coping with the cost of acquisition, the lack of technological knowledge and the poor policies of handling the non-printed materials. Such difficulties in most cases lead to poor utilization of the resources available. As a result, the suggestion by scholars is to formulate detailed collection management policies that clearly deal with non-print media, and ongoing capacity building of librarians in digital curation and multimedia management.

In East Africa, academic libraries are now starting to incorporate non-print items in their system as universities try to adopt global trends in digitalization & knowledge management. Nevertheless, research shows that the use and adoption of these resources are still constrained due to limited technical capacity, poor state of ICT infrastructure, lack of funds, and shortage of specialized digital library skills among staff (Motuma et al., 2024; Subaveerapandiyana & Ugwulebo, 2024). University electronic resources, multimedia content, and institutional repositories have received increasing attention and funding. However, many institutions still fail to have adequate hardware and software, preservation

strategies, and technical support systems to enable effective access and use of result digital resources (Erima & Mosweu, 2023; Motuma et al., 2024). Moreover, some difficulties experienced due to issues associated with metadata standardization, digital curation, interoperability and the integration of multimedia resources into library databases is still hindering effective discovery and access by users (Erima & Mosweu, 2023). Recent studies emphasize that the inadequacy of digital competencies of both library staff and users hampers the further effective exploitation of non-print resources. As such, continuous capacity building is necessary (Bentil & Liew, 2024; Cherotich et al., 2024). As a result, according to researchers, an increase in investment in digital infrastructures, training of staff, adherence to international metadata standards, and strengthening of institutional policies will enhance the management and accessibility of non-print resources in East African academic libraries (Subaveerapandiyana & Ugwulebo, 2024; Motuma et al., 2024; Bentil & Liew, 2024).

In Kenya, non-print materials are also getting into the academic library collections, especially in the universities that are well equipped in terms of ICT. Such resources comprise audiovisual, digital media, institutional repository and other multimedia materials that facilitate teaching and research. Nonetheless, there is low use of the fact that they are available. In a research done by Gathoni (2011) in universities of Kenya, the researcher discovered that non-use of non-print materials is greatly affected by lack of awareness, insufficient training of users, and insufficient marketing of the resources available. The research also found that a large number of users are not familiar with accessing and using multimedia resources even in instances where they are accessible in the library systems. It

suggested that thorough programs of user education, orientation, and active resource promotion, via library websites and online platforms, be implemented.

Further observations by Kenyan higher education institutions show that some institutions have invested in multimedia tools and online platforms, but issues like unreliability in internet connection, access to equipment and lack of technical support persist to influence usage. Consequently, it has led to increased focus on enhancing ICT infrastructure, improving digital literacy among consumers and incorporation of non-print resources into regular library services.

In conclusion, non-print information resources have become more relevant in the current academic libraries because they facilitate interactive/diverse learning experiences. Global trends show progressive integration and use of multimedia resources, but the African, East African, and Kenyan settings indicate persistence of problems in the areas of infrastructural and technical capacity as well as user awareness. In all the regions, research has been consistent with the proposal in investing in the ICT infrastructure, training of staff, educating users and formulation of strong management policies to improve accessibility and use of non-print materials in academic libraries.

Non-print resources like audiovisual materials, maps, and multimedia content have become important in assisting different styles of learning globally. According to a study conducted in the United States by Crawford (2001), digital multimedia libraries are more interactive and approachable by their ability to integrate text, images, audio and video content to make information more interactive and easier to understand. The research suggested the

implementation of the state-of-the-art digital management solutions and standardized metadata to be able to cope with these varying formats.

The use of non-print resources is increasing in Africa, albeit unevenly. In a study conducted in Tanzania, Katabalwa (2016) discovered that multimedia and audiovisual materials are becoming more popular in post-secondary education especially among postgraduate learners, as they are relevant and easily accessible. Nevertheless, the study revealed some issues like poor infrastructure and poor equipment and suggested the investment in ICT infrastructure and training.

Non-print materials are slowly finding their way into the collections of academic libraries throughout East Africa. Studies however suggest that their use is limited in many instances by technical limitations and expertise. The studies in the area focus on capacity building among librarians and better infrastructure to facilitate management of multimedia resources.

Non-print materials are also being included in academic libraries in Kenya, especially in those universities that have the best ICT facilities. Nonetheless, there exists research like Gathoni (2011) which shows that there is a poor awareness and use of these resources, especially because of insufficient awareness through user training and marketing. The research suggested the improvement of user education programs and the promotion of multimedia resources by the means of libraries.

2.3.3. Electronic Resources (E-Resources)

Electronic resources (e-resources) have emerged as the leading element of academic library collections across the globe due to the accelerated technological progress, and the growing need to access information flexibly and remotely. Surveys conducted in North America, as

well as Europe, reveal the existence of a definite print to digital migration owing to the benefits inherent in the medium like cost-effectiveness, space-saving, simultaneous access and real-time access to updated content. In a study that was carried out in the United States by Lee (2013), it was discovered that academic libraries are paying more attention to the use of electronic resources at the expense of print as they lower storage and processing expenses and the access of the users to the resource increases.

On the same note, a study conducted in Argentina by Molteni (2007) indicated that there has been consistent rise in the use of e-journals and most academic libraries are embracing it as an essential part of their collection. The paper also observed that electronic subscriptions facilitate resource sharing and collaboration within institutions but need to be sustainable in terms of licensing and budget plans. The emergence of evidence-based models of acquisition, in which libraries use usage data and user feedback to inform their purchasing decisions, is also highlighted in more recent reviews around the world in order to enhance cost-efficiency and relevance of collections. All these studies suggest a long-term investment in digital infrastructure, licensing agreements, and access management systems to achieve the long-term sustainability of e-resources.

The uptake of electronic resources in Africa has been on the increase, although there is still an uneven distribution as a result of infrastructural, financial, and policy-related issues. In a research done in Nigeria by Adindu (2020), it was established that academic librarians are very willing to utilize ICT tools in the process of obtaining and managing the e-resources. Nevertheless, the research has found that some of the major obstacles to effective implementation are lack of funding, lack of ICT infrastructure, and lack of training of library staff. The research suggested that institutional funding should be increased, ICT

infrastructure improved, and that continuous professional development programs should be implemented to improve the competencies of the librarians in managing the digital resources. In the same line, research in African universities shows that as much as e-resources are now being made available through programs like consortium subscriptions, their potential is usually limited due to lack of internet connectivity, lack of reliable power supply, and lack of effective technical support mechanisms. Consequently, collaborative acquisition models and regional consortia are being promulgated to African academic libraries to enable them to save money and enhance access to the electronic information resources.

Electronic resources have become widely accepted as important resources within the support of academic research and higher education in East Africa. According to a study by Okello-Obura and Magara (2008) at Makerere University in Uganda, users were very satisfied with electronic resources stating that they enable them to access a large variety of up-to-date and quality scholarly resource. The research has illustrated the fact that e-resources have a great impact on research productivity and academic performance especially among postgraduate students. It, however, also determined the unrelenting problems like low ICT infrastructure, poor internet access and limited access to subscription-based facilities. To solve these challenges, the authors suggested that more resources should be invested in automation systems, better bandwidth, and development of digital collections. Other research works in the East African region also underscore the significance of user training and information literacy programs because most of the users do not have the requisite skills to access and use the electronic databases effectively.

The use and incorporation of e-resources in academic libraries in Kenya has continued to spread significantly in the last ten years, especially in both government and privately-owned universities. According to a study conducted by Gathoni (2011), despite the high number of electronic databases and journals subscribed to by many university libraries, the usage levels of the databases and journals are still relatively low, owing to the lack of awareness by users and poor training. The research has highlighted that, although the e-resources are available, they cannot be effectively utilized without user education, marketing and support services. It suggested organized information literacy training, frequent user training, and special sensitization to enhance usage.

Other observations of Kenyan universities like Kenyatta University and United States International University-Africa show that, academic libraries have gone a long way in embracing digital technologies. They encompass the introduction of institutional repositories, online public access catalogues (OPACs), online remote access systems and online electronic databases on subscription basis. These advancements have made accessibility easier and the user experience better by enabling students and staff to access resources on and off campus. Nevertheless, issues of limited financial resources, irregular access to the internet, as well as a lack of digital literacy among users, still influence optimal utilization. As a result, research suggests to enhance the ICT infrastructure, improve remote access and user support services to ensure that the value of e-resources are fully utilized.

In general, the literature suggests that although electronic resources have revolutionized academic libraries around the world, their successful management and use require strong infrastructure, long-term funding, competent staff, and ongoing training of users. The shift

to digital collections is here to stay but to be successful, it should be planned and aligned to the needs of the user especially in the developing world like Africa and Kenya.

2.3.4 Integration of ICTs in Resource Management

The introduction of the Information and Communication Technologies (ICTs) has significantly altered the collection management practices of academic libraries in that it allows automation, facilitates access to information resources, and overall improves service delivery. ICTs enable important library activities like acquisition, cataloguing, circulation, preservation, and dissemination of information, thus, streamlining collection management into efficiency, user-centered, and data-driven.

ICT integration has transformed the traditional academic libraries into hybrid and more digital knowledge centres across the world. The use of Integrated Library Systems (ILS), digital repositories, discovery tools, and cloud-based platforms are now heavily utilized by libraries to manage and make available both print and electronic resources. In a survey of academic libraries in Europe and North America, Lorcan Dempsey (2021) determined that ICTs have made it possible to transition to networked library spaces where collections are no longer localized to physical spaces but are available on institutional and worldwide platforms. The research presented the increased significance of data analytics in collection development and suggested libraries to implement evidence-based strategies based on usage statistics and user behavior data.

Equally, the International Federation of Library Associations and Institutions (2023) guidelines note that modern collection management is based on the centrality of ICTs, which facilitates the automation, interoperability and sharing of resources via consortia and digital

networks. The guidelines suggest that investments in digital infrastructure, interoperability of the system, and employee competencies should be continued to guarantee successful management of hybrid collections.

Moreover, research conducted in the United States and Europe (e.g., Lee, 2013) demonstrates that ICTs have minimized operational inefficiencies through the automated cataloguing, electronic acquisition systems, and easy access to e-resources. Nevertheless, the research also identifies obstacles including the cost of high implementation, complexities of licensing, and continuous upgrades of the system, suggesting the use of sustainable funding models and strategic planning.

In Africa, the uptake of ICTs in academic libraries has increased tremendously and yet the development is unequal because of the infrastructural and financial limitations. According to a study by Adindu (2020) in Nigeria, librarians have shown a high level of willingness to embrace ICT towards acquisition and collection management especially in the area of enhancing efficiency and fulfilling user demands. The study, however, found that there were major challenges such as limited funding, lack of ICT infrastructure, and lack of training and suggested institutional investment and ongoing professional development.

Equally, studies in the field of African academic libraries (Ngulube, 2020) indicate that ICTs are being utilized to facilitate digitization initiatives, institutional repository, and electronic resource management to enhance access to local and international scholarly materials. The study, however, discovered that most libraries have challenges in maintaining ICT projects because of low connection, erratic power supply, and lack of technical skills. It suggests the

enhancement of national ICT policies, development of infrastructure and regional partnerships in the improvement of digital library services.

A research conducted at Tanzania by Katabalwa (2016) also indicated that postgraduate students highly regard ICT enabled resources, especially the electronic databases and digital repositories, on the basis of research. Nonetheless, its use is usually inhibited by slowness of internet connections and access points, so it has been recommended that higher education institutions be improved in bandwidth and ICT infrastructure.

Integration of ICT in East Africa has emerged as a main approach towards modernising academic libraries and enhancing access to information resources. A study carried out at Makerere University in Uganda by Okello-Obura and Magara (2008) established that ICTs have greatly improved access, retrieval and exploitation of electronic information resources which translates into increased user satisfaction. The research suggested the increase of automation systems and digital services to enhance efficiency and accessibility even more.

Nevertheless, studies in the region show that adoption of ICT remains limited due to various factors. Libraries are frequently faced with low financial resources, insufficient infrastructures and absence of qualified personnel, which influences the provision, and maintenance of the ICT-based services. To break these challenges, regional studies suggest the need to invest more in ICT infrastructure, staff training, and mutual resource sharing programs.

ICT integration has greatly enhanced the collection management and service delivery in academic libraries in Kenya. Online Public Access Catalogues (OPACs), institutional repositories, electronic resource management systems and remote access systems are some

of the systems implemented in universities where users are now able to access information resources more effectively. In a study conducted by Gathoni (2011), ICTs have increased the visibility and accessibility of e-resources, yet their use is low because of the lack of awareness in users and insufficient training. The research advised to enhance user education programs and marketing strategies to enhance usage.

According to observations conducted by the Kenyan major universities like Kenyatta University and USIU-A, ICTs facilitate numerous services, which include online catalogues, digital repository, off-campus access to databases, and virtual reference services. The developments have enhanced user experience and increased access to information resources in addition to the physical library space.

With these developments, there are still problems. Research in Kenya points to erratic internet service, lack of funds and lack of technical expertise among personnel in the libraries, as limiting the effective utilization of ICTs. It is also necessary to have more robust policy frames and institutional backup to lead ICT integration in collection management. The recommendations involve more investment of ICT infrastructure, staff training and development of comprehensive digital plans to improve library services.

In general, the integration of ICTs has revolutionized the way collection management is performed across the world, as it allows automation, enhances access, and permits the efficient sharing of resources. As the developed world has reached high levels of digital integration, libraries in Africa and East Africa are still struggling with infrastructural and financial constraints. Kenya has made major strides in the use of ICTs, although there are gaps in the infrastructure, training and awareness of the users. The studies in all regions all

suggest that more investment in ICT infrastructure, capacity building, and policy development is needed to realize the full potential of the digital transformation of academic libraries.

In general, the empirical data presented in the global, African, East African, and Kenyan contexts show a strong shift of traditional print-based collections to hybrid information spaces, which combine the use of print, non-print, and electronic resources. Although print materials will continue to play a significant role in archival and scholarly services, non-print and electronic materials are becoming more of a focus in contemporary academic libraries. In all regions, the research findings invariably outline the problem of insufficient funding, infrastructural constraints, and absence of end-to-end policies as well as suggesting the investment in the ICTs, training of the users, and user-friendly approaches to collection management. These results highlight the importance of academic libraries such as MMUST Library to constantly revise their collection management policies to suit the changing user demands and be more satisfying

2.4 Collection management policy on user satisfaction

Collection Management Policies (CMPs) refer to strategic plans that govern the selection, acquisition, organization, preservation and assessment of the library resources. CMPs in academic libraries make sure that collections are relevant, balanced, and in line with institutional teaching, learning and research objectives. In the recent literature, CMPs are no longer just viewed as administrative documents but are discussed as dynamic governance instruments, which influence the outcomes of resource quality, accessibility, and user satisfaction (Johnson & Adams, 2024). This section presents the four sub-themes of CMPs

in terms of effects on the print resources, effects on the electronic resources, issues in implementation and correlation with the user satisfaction on the global, African, East African, and Kenyan settings..

2.4.1 Collection Management Policy and Print Resources

Collection Management Policies (CMPs) are crucial in the world as they keep the print collections relevant, curated, and in line with the needs of the academia. According to recent studies in the European academic library by Lorcan Dempsey (2021), the use of analytics on collections is becoming more informative of collection policies and facilitating libraries to maximize print purchases, which are informed by the usage patterns, alignment with the curriculum, and the patterns of research output. The article highlights that the print collections are no longer passive assets but are being constantly influenced by data-driven decision-making and institutional agendas, suggesting responsive policy frameworks that enhance continuous assessment, weeding, and renewal of collections.

In line with this perspective, a study at the United Kingdom university libraries, by Baughman and Porter (2023), discovered that CMP-based strategies in print collections were very effective in enhancing the relevance of collections and optimization of space especially with systematic weeding and replacement policy. The research suggested a greater incorporation of academic departmental input in print acquisition decision making in order to make sure that there is a curriculum fit.

On the same note, in a comparative study in Canada, White and Harris (2022) discovered that academic libraries had structured CMPs that were more effective in managing space and

enhancing relevance of print collections, especially via systematic deselection. The research also suggested combining the print and digital collection policies to guarantee consistency in hybrid libraries.

Johnson and Miller (2023) investigated the sustainability of print collections in research libraries in the United States and discovered that CMPs increased retention of used materials and removed outdated resources, increasing the efficiency of the collection as a whole. The research suggested the implementation of evidence-based collection evaluation paradigms based on circulation data and user feedback.

CMPs play a key role in determining the quality and sustainability of print collections in Africa, but it is widely implemented in different institutions. In Ghana, Owusu and Mensah (2022), reported that the development of articulated collection policies enhanced the acquisition of curriculum-related textbooks and reference materials, but the implementation was limited due to funding limitations. The research suggested the reinforcement of budget allocation systems, cooperation with donors, and policy enforcement systems.

In a similar investigation in South Africa, Nkosi and Mthembu (2023) discovered that institutions with well-established CMPs had more relevant and up-to-date print collections as well as those with poorly enforced policies had duplication and obsolete materials. The research suggested the reinforcement of policy surveillance systems and librarian training courses.

Likewise, a study by Eze and Okeke (2021) conducted in Nigeria demonstrated that academic libraries that had formalized CMPs had more balanced and updated print collections, whereas libraries that did not have clear policies for CMPs had duplicated and

outdated materials. A more recent paper by Ibrahim and Yusuf (2023) further validated that CMPs enhance collection coherence and unnecessary duplication, but it requires better institutional backing and funding.

CMPs are still used to direct print resource development in East Africa, but there are still obstacles to implementation. Mtega and Benard (2021) conducted a study in Tanzania and discovered that academic libraries depend on CMPs in making acquisition decisions but the policies are not consistently applied thus resulting in disparate quality of collection in different institutions. The research suggested enhancing institutional monitoring systems and alignment of the policies with the need of academic programs.

The researchers conducted a study in Ethiopia, where Tadesse and Gebre (2022) discovered that, despite the presence of CMPs in the majority of academic libraries, the lack of personnel and the insufficient policy implementation undermines the effectiveness of CMPs in terms of developing print collections. The research suggested ongoing professional training and development and standardization of national policy frameworks.

In Uganda, Kasozi and Nakalema (2023) found that CMPs play a major role in the development of print collections, and budget constraints and procurement inefficiencies are the obstacles to efficient implementation. The research proposed better procurement mechanisms and enhanced partnership between the librarians and academic departments.

In Kenya, CMPs are very influential in print resource acquisition and management in university libraries. Wamukaya and Mutula (2022) have discovered that Kenyan academic libraries that had well-defined CMPs had more aligned print collections with academic curricula, but implementation was hampered due to issues with procurement delays and

budget constraints. The research suggested that policy compliance should be improved and user needs assessment should be incorporated in the process of making a print acquisition decision.

More recently, Njoroge and Waweru (2023) report in Kenyan government institutions of higher learning that CMPs affect the choice of print materials in a positive way, however, funding cycles and implementation mechanisms are inconsistent and weak, thus decreasing the effectiveness. The research suggested enhancing the library governance mechanisms and synchronizing policies and institutional strategic plans.

Likewise, Odhiambo and Kiptoo (2024) reported that the relevance of print collections in libraries of Kenyan universities can be significantly enhanced by the involvement of the users in the collection development process. The research suggested adding faculty and student feedback to implementation processes of CMP.

By and large it is seen worldwide and in the areas that there are Collection Management Policies in place that have served to maintain relevance, balance and alignment of print collections with the needs of academia. CMPs aid systematic acquisition, evaluation and weeding of print materials in all regions, however their efficiency varies with policy clarity, institutional funding, staff capacity, and stakeholder engagement. The current research literature continues to point out that despite CMPs enhancing the quality and relevance of print collection, issues like weak implementation, ineffective budgets and inadequate user engagement continue to impact its effectiveness, especially in developing areas..

2.4.2 Collection Management Policy and Electronic Resources

Collection Management Policies (CMPs) have taken center stage in the management of the fast growth of electronic resources including e-books, online databases, institutional repositories, and electronic journals all over the world. Modern literature demonstrates that CMPs are no longer applied to print acquisition decisions but are more frequently used to regulate the digital licensing, access administration, preservation schemes, and resource dissemination agreements. According to a study by Parker and Lee (2023) in Australia, libraries that have well-designed CMPs have a better time negotiating licenses, renewing their subscriptions, and digital preservation processes, which results in higher efficiency and customer satisfaction. The research suggested the ongoing revision of the policy to mirror the dynamics in the vendor models and the digital access needs.

Likewise, in the United States, a study by Miller and Brown (2022) has shown that the incorporation of usage analytics and cost-per-use assessment in CMPs greatly improves the decision-making in electronic resource acquisition. They found that libraries that implemented evidence-based policies were more effective in optimizing their budgets and in maximizing their investment in subscriptions. The research suggested enhancing data-driven acquisition models and institutionalizing CMPs in line with the priorities of institutional research.

These findings are further supported by evidence in Europe. Johnson and Carter (2023), who examine academic libraries in the United Kingdom, identified that CMPs incorporating open access policies and hybrid licensing models enhance resource accessibility and lowering subscription costs. The research suggested the increased use of the consortia-based

purchasing and open science models in order to be more sustainable in managing electronic resources.

CMPs are becoming advisable to manage electronic resources in Africa, yet their application is not evenly spread because of the lack of finances and infrastructure. A South African study by Naidoo and Singh (2023) has discovered that universities with established policies on how to cope with digital collections were more successful in their management of e-journal subscriptions and database licensing contracts that lead to better access to scholarly materials. Nevertheless, the research pointed to the limitations of it being expensive to subscribe, reliance on vendors, and inconsistent enforcement of policies, suggesting the consolidation of regional library consortia to facilitate cost-sharing and resource negotiation.

In West Africa, Olatunji and Adebayo (2022) discovered that CMPs were effective in enhancing the efficiency of electronic resources acquisition of Nigerian academic libraries. Nonetheless, most institutions did not have a detailed policy on digital collections that resulted in the duplication of subscriptions and waste of resources. The research study suggested the formulation of combined policies in line with institutional ICT policies and enhancing training of librarians on digital resource management.

In Ghana, Mensah and Boateng (2023) reported that although the electronic resources were very common in university libraries, they were not used due to poor policy frameworks and failure to orient users. The research suggested to incorporate user engagement strategies and digital literacy training to CMPs, which would enhance the use and access to e-resources.

CMPs are gaining popularity in East Africa to handle digital collections, although there remain challenges to implementation and sustainability. A Ugandan study by Kibuuka and

Nansubuga (2021) revealed that academic libraries with well-organized CMPs had easier access to electronic databases, institutional repositories, and digital journals, yet access to their full potential was limited by the limits of licensing and limited budget funding. The research suggested intensifying the consortia-based procurement models and aligning policies of the institutions to enhance access and lower costs.

Mtega and Benard (2022) discovered that despite the presence of CMPs in most academic libraries, they are not always in tandem with ICT changes, leading to ineffective management of e-resources in Tanzania. The research suggested periodic reviews of policies and enhancing the incorporation of digital infrastructure planning into CMP frameworks.

CMPs in Kenya are significant in determining who gets, manages and has access to electronic resources in the academic libraries. Nyambane and Nyamboga (2023) conducted a study that revealed that Kenyan university libraries extensively use CMPs to control subscriptions of prominent databases like JSTOR, EBSCO, and ScienceDirect. The research, however, found that the level of utilization is greatly lowered by the lack of user awareness, ineffective training and insufficient marketing of e-resources. It suggested that information literacy programs and digital awareness campaigns should be incorporated into collection policies to promote effective utilization of e-resources.

Likewise, a research conducted by Karanja and Waweru (2023) revealed that although CMPs in Kenyan universities facilitate the procurement of e-resources, budget constraints and inconsistent policy implementation usually undermine their implementation, which influences access and satisfaction in general. The research suggested enhancing institutional policy implementation and better integration of ICT infrastructure and collection plans.

Moreover, Odongo and Mwangi (2022) noted that Kenyan academic libraries are shifting to digital collection policies, which are burdened by system interoperability issues, the sustainability of subscriptions, and staffing. The research suggested life-long learning and investment in integrated library systems to enhance the management of e-resources.

On the whole, it can be seen that CMPs are an indispensable tool in the management of electronic resources of academic libraries both globally and regionally. In developed settings, CMPs have become data-driven and integrated with digital analytics, facilitating effective acquisition and better access by users. CMPs are highly used in Africa and East Africa, but the success is limited by funding, infrastructure, and gaps in policy implementation. CMPs play a critical role in steering e-resource management in Kenya but the problem of low user awareness, insufficient training and inconsistent application diminish their effectiveness.

In all settings, the literature is united in the importance of evidence-based policies, integration of ICT, capacity building, collaboration among consortia, and user-oriented approaches to improve the management of electronic resources and improve library service delivery.

2.4.3 Challenges in Collection Management Policy Implementation

The world is rapidly facing increased challenge in implementing Collection Management Policies (CMPs) due to the blistering technological development, increased subscription fees on electronic resources, and the ever-increasing demands of the users. Recent research suggests that academic libraries are currently working in very dynamic information spaces in which policy frameworks frequently find it difficult to keep pace. A survey of academic

libraries in North America and Europe by Walters and Davis (2023) revealed that a significant portion of libraries is struggling with the challenge of ensuring that their collection policies remain relevant in the hybrid library space. The paper has identified that the move to digital-first collections has led to holes in policy flexibility, especially in dealing with licensing agreements, renewals, and digital conservation. It suggested the implementation of agile policy frameworks reviewed and updated on a regular basis based on usage analytics and stakeholder feedback to keep it relevant.

Additional data was provided by a study by Thompson and Reed (2022) in the United Kingdom where even long-established academic libraries experience operational limits when it comes to aligning CMPs with new technology, including artificial intelligence-based discovery tools and cloud-based library systems. The research identified policy inertia as a common constraint to innovation, and suggested incorporating adaptive, technology-sensitive governance frameworks to facilitate digital change in libraries. Equally, Johnson and Miller (2024) discussed that data-informed policy ecosystems are becoming necessary in global libraries to effectively address complexity of hybrid collections.

Structural, financial, and infrastructural challenges greatly limit the implementation of CMP in Africa. In a study by Aina and Chisenga (2022), carried out in a sample of African academic libraries, authors concluded that most of the institutions have insufficient funds, a stable ICT environment, and well-trained staff to implement the collection development policies effectively. Such constraints lead to unequal implementation of policies especially in procurement and management of electronic resources. The research suggested that more funding should be done by the government and institutions in infrastructure in libraries and

also more collaboration of regions by use of library consortia to maximize sharing of resources and lowering of the costs incurred in subscriptions.

In the same vein, Njoroge and Kiplagat (2021) in a comparative analysis of East and West African universities noted that the application of CMPs is inconsistent, resulting in unequal access to information resources, with some institutions having relatively strong collections and others falling behind. The paper has highlighted the importance of standardized policy frameworks and a unified collection development guidelines across institutions, and also sustained training of staff to enhance implementation capacity. Also, Osei and Boateng (2023) in Ghana discovered that policy enforcement is weak and there is little monitoring systems to ensure that resources are not duplicated and budget used inefficiently in academic libraries, suggesting more robust institutional accountability systems.

The institutional and operational constraints also influence CMP implementation in East Africa. In a study of Ethiopia, Tesfaye and Abebe (2022) discovered that despite the formal existence of CMPs in most academic libraries, there is a wide discrepancy between policy formulation and implementation. These loopholes are mostly explained by the inefficient institutional enforcement systems, lack of ICT infrastructure and training of library employees. The research found that these issues diminish the efficiency of CMPs in informing the selection of collections, their acquisition, and access. It proposed to increase leadership control and institutional coordination and the incorporation of ICT systems in policy implementation to improve effectiveness.

In addition, Msuya and Lwehabura (2021) conducted a study in Tanzania that revealed that the implementation of CMPs in university libraries is impeded by the lack of funds and

inadequate integration of ICT systems. The research observed that a lot of policies are still more of a theoretical document with little impact on the day-to-day running of libraries. It suggested the enhancement of policy implementation monitoring systems and staff development programs in closing the policy-practice gap.

The issues of CMP implementation also remain a persistent issue in Kenya even though most of the university libraries have formal policy frameworks. Odongo and Mwangi (2022) conducted a study where they discovered that Kenyan academic libraries have recorded CMPs; however, the success of the intervention is hampered by insufficient funding, delays in procurement, and the lack of effective implementation strategies. The consequences of these challenges are inefficiencies in the development of collections, such as delays in obtaining new materials and challenges in keeping collections up-to-date. The research suggested that the governance structures of libraries should be reinforced, the budgetary allocation process ought to be enhanced, and that an institutional strategic plan should be aligned with institutional collection policies.

Besides that, Karanja and Waweru (2023) noted that the incoherent application of CMPs among Kenyan universities results in unequal distribution of resources and their quality. The research highlighted the significance of incorporation of policy compliance mechanisms and strengthening cooperation between the librarians and academic departments to enhance the outcome of implementation. Likewise, Mutua and Nyaga (2024) discovered that inadequate ICT competencies among the library staff also limit the successful implementation of policies, especially in the management of electronic resources and electronic repositories. The research suggested lifelong learning and ICT capacity building of library staff.

In general, the global, African, East African, and Kenyan studies all suggest that the implementation of CMP is hampered by technological change, financial, infrastructural, and human resource capacity gaps. Although developed world has issues with adaptability of policy to the rapidly changing digital landscape, African and East African libraries are also limited by funding and ineffective ICT infrastructure. In Kenya, operational problems are prevalent such as insufficient funding, poor enforcement, and insufficient technical capacity. In all settings, research findings have continually suggested the need to constantly review policies, allocate more expenditure, build ICT infrastructure, train staff, and have stronger governance systems in order to enhance the efficiency of collection management policies in academic libraries..

2.4.4 Collection Management Policy and User Satisfaction

Collection Management Policies (CMPs) are closely associated with user satisfaction in the whole world since they directly affect the quality, relevance, accessibility and timeliness of library resources. Recent empirical studies have indicated that scholarly libraries that have well-organized and actually effective CMPs are more likely to experience increased user satisfaction because collections are better aligned with their expectations. As an example, in a comparative study of academic libraries in United Kingdom and Canada, Taylor and Green (2023) discovered that those institutions with well-defined and frequently revised CMPs registered much higher user satisfaction rates. The research ascribed this to enhanced relevance of resources, appropriate acquisition and easy access in print and electronic form, and suggested the incorporation of systematic user feedback systems in the process of policy

review to promote the maintenance of a consistent match with changing academic requirements.

Equally, in a study conducted by Robinson and Carter (2022) in Australian university libraries, it was established that CMPs which integrates data analytics, tracking user behaviors and curriculum mapping results in higher levels of satisfaction among students and academic staff. The paper has highlighted that user satisfaction is no longer merely a matter of resource availability, but also of ease of discovery, digital access and responsiveness of library systems, and proposed greater incorporation of user experience metrics into policy frameworks.

Singh and Kumar (2024) discovered in their other part of the world study that libraries in India with updated CMPs that featured explicit digital resource strategizing scored higher on the satisfaction scale among post-graduate students. The research suggested ongoing policy adjustment to the rapid technological shift and the growing need in the remote access to information resources.

The effectiveness of CMP implementation and the extent to which policies are aligned to institutional and user needs are closely related to user satisfaction in Africa. In a study of libraries in Zambia, Banda and Phiri (2022) discovered that libraries that had well-developed CMP frameworks registered more student satisfaction over both print and electronic materials, especially where there was a systematic incorporation of user needs assessment in making acquisition decisions. The research suggested that stakeholder involvement in policy making should be enhanced and communication between the librarians and academic departments should be enhanced.

Okafor and Eze (2023) carried out a research at federal libraries of universities in Nigeria and discovered that the successful application of CMPs enhanced user satisfaction in libraries with balanced print and electronic collections that were supported by clear acquisition policies. Nevertheless, the paper had observed that inconsistency in the implementation of policies and lack of sufficient financing diminished the performance of CMPs in certain institutions. It suggested better budgetary allocation and monitoring systems of policies to increase satisfaction results.

Naidoo and Singh (2023) in South Africa have discovered that academic libraries that have had successfully established CMPs have reported more satisfaction levels as a result of having increased access to electronic databases and effective collection development practices. The paper has highlighted the importance of resource allocation based on policy and the use of subscriptions via consortium as primary factors in user satisfaction and the need to intensify regional cooperation to increase access to expensive electronic materials.

CMPs also have a major impact on user satisfaction in East Africa by affecting resource availability, accessibility, and relevance. One such study in Tanzania by Nyerere and Msuya (2021) revealed that successful collection policy implementation enhanced user satisfaction, especially in institutions that highly integrated ICT and had digital library services. The research found that students were more contented in libraries where CMPs facilitated the acquisition of pertinent materials in a timely manner and prompt access to electronic resources and suggested a continuous review of the policies and greater involvement of users in the development of the collection.

Kabuye and Nankinga (2022) discovered in Uganda that libraries with structured CMPs had higher user satisfaction because of better organization and accessibility of both online and offline resources. The study, however, found limitations in form of lack of funding and poor ICT infrastructure that limited full implementation of policy objectives. It suggested institutionalizing more investment in library systems and enhancing staff capacity to implement policy.

CMPs are also vital in the determination of user satisfaction in academic libraries in Kenya by informing systematic acquisition, organization and access strategies. Karanja and Waweru (2023) conducted a study that revealed that users are much more satisfied with the institution in which CMPs are used to update collections in good time, acquire equal quantities of print and electronic materials, and have an efficient access system. The paper has underscored that user-friendly policies help in enhancing academic performance and suggested enhancing feedback systems and participatory policy-making strategies.

Likewise, Mwangi and Otieno (2022) in Kenyan higher education institutions discovered that despite the fact that most institutions have recorded CMPs, user-satisfaction is not balanced because gaps in implementation have occurred, and in addition, most institutions have not promoted electronic collections. The research suggested the need to improve the user training program, better policy dissemination, and reinforcement of the ICT infrastructure to enhance the levels of satisfaction.

An analogous report by Wanjiku and Njoroge (2024) revealed that incorporation of digital library services into CMP systems in Kenyan institutions of higher learning had a significant effect on user satisfaction, especially among postgraduate students in these institutions.

Nevertheless, the study observed that the lack of consistent funding and effective implementation of policies restricted the delivery of optimal services and it suggested that institutions should be more committed to policy implementation.

In general, the global, African, East African, and Kenyan literature reveals that Collection Management Policies are fundamental in determining the user satisfaction in academic libraries. CMPs affect satisfaction as they dictate the quality, relevancy, accessibility, and timeliness of both print and electronic resources. In all regions research has indicated that when policies are implemented effectively there is an increase in the level of satisfaction and where there is poor implementation there is a difference between what is expected by the users and the services that are actually being offered.

Nevertheless, regardless of their significance, CMP performance is usually limited by such barriers as insufficient funding, poor enforcement mechanisms, poor ICT infrastructure and staff capacity. Therefore, the current literature in all areas is highly advocating evidence-based policy-making, ICT systems integration, staff training, stakeholder participation, and feedback to users in academic libraries to improve the collection management performance and overall user satisfaction..

2.5 User-Satisfaction with Information Resources in Libraries

User satisfaction is generally perceived as an evaluative reaction that is developed when users juxtapose their anticipations with the actual experience of the service, and satisfaction comes when their perceived performance falls within or surpasses expectations (Oliver, 2014; Kotler and Keller, 2016). Satisfaction is becoming a multidimensional concept in the modern service setting, and it is affected by the quality of services, their accessibility,

responsiveness, and perceived importance of the provided service (Grönroos, 2019). An ongoing discontent ensues when a steady discrepancy exists between the expectations of users and service execution, especially where service delivery is multifaceted and reliant on resources (Zeithaml et al., 2020).

As academic and service institutions adapt to the changing needs of knowledge-based and digital worlds, there has been a sharp rise in investment in advanced systems and facilities that contribute to better access to information, increased service efficiency, and better management of resources (Baker and Evans, 2021). Recent research also reveals that a significant part of the research on institutional service use has turned to the analysis of digital integration, resource organization, and user-focused service provision as driving forces of satisfaction (Chowdhury, 2022). Here, the enhanced level of user contentment is more and more linked to the effectiveness with which institutions utilize their resources, organize their services, and coordinate operations with the requirements of the users in a more digital and information-rich environment (IFLA, 2023).

A user satisfaction survey was conducted by Amarasekara and Marasinghe (2020) in the Open University of Sri Lanka, 357 staff and students participated in the survey to determine satisfaction with library facilities, staff, services, resources, and a library site. The study identified that the most common reasons why the users accessed the library were to read, borrow a book and to retrieve information using a structured questionnaire and descriptive statistics. In general, the respondents expressed high satisfaction with the library staff and moderate satisfaction with the services and generally positive perceptions of the resources, facilities and the library website. Nevertheless, a number of gaps were observed, such as the lack of user awareness programs, poor training in information search, poor use of social

media to distribute information, poor access to Wi-Fi, poor access to audiovisual materials, and poor electronic databases and online services. The study established that there is a need to enhance information literacy programs, user awareness programs and digital service delivery to improve user satisfaction and to guarantee the on-going improvement in the quality of library services.

Onwukanjo (2017) investigated how availability and access to information resources affects user satisfaction in undergraduate students in the Federal University of Technology Minna. The study evaluated the resource availability, relevance, adequacy, accessibility, and the challenges that the users encounter through a survey design and questionnaires. Results showed poor user satisfaction with the form of poor, outdated and irrelevant information resources, poor support services including absence of up to date awareness services, poor access to printing and photocopying and poor information retrieval tools. The research came to the conclusion that the quality of resources and the system of their access considerably decrease user satisfaction and suggested the need to improve the development of collection and access services.

Likewise, Tiemo and Ateboh (2016) evaluated user satisfaction with library information resources and services at the College of Health Sciences Library at Niger Delta University, Nigeria. The survey of 180 respondents revealed that the users were generally satisfied with the lending services, renewal process, and long internet access hours. Nevertheless, dissatisfaction has been mentioned with the lack of up-to-date reference materials, old-fashioned journals, and lack of subject-specific resources. The researchers determined that the effectiveness of service delivery systems was relatively high, but the lack of currency

and completeness of resources adversely impacted the experience of the entire user satisfaction and suggested that collections should be updated on a regular basis and that new materials should be obtained regularly.

Abdulahi, Yaya, and Saidu (2020) carried out an investigation in the Katsina State, Nigeria, to determine the accessibility and customer satisfaction of the information resources in the public libraries. A survey design was used to collect data (n=120) based on cluster and simple random sampling of 23 library branches in three senatorial zones. The results showed that the public libraries under analysis had very poor and insufficient information resources most of the collections did not have up-to-date and relevant materials. The research also discovered that library attendance was primarily limited to use of libraries by the library users to read newspapers and use materials during examination times showing that there is minimal use of library resources which are not strictly necessary. In general, the level of user satisfaction was reported to be extremely low, with the majority of the library services not being functional or adequate in all of the sampled libraries. The main obstacles discovered were the lack of sufficient and old information sources, lack of funds, unstable power supply, and lack of trained library personnel. The researchers found that to improve the situation in the public libraries, it is necessary to invest in the modernization of the libraries, to better fund them and to use various techniques of collection management, including weeding the outdated resources and making them more relevant to the needs of users.

According to Mohamed (2014), the primary functions of library facilities are to ensure that patrons have access to the necessary information resources and services. Liu (2010) argues that in the absence of user-satisfying resource management and service provisions, a library will fail to fulfill its intended function. An increase in customer satisfaction is a direct consequence of superior service quality (Naeem. Saif, 2009). This thus necessitates the provision of high-quality facilities and precise information resource management in order to fulfill the requirements of library users with regard to information access, study, and research.

Zeithman and Bitmar (2000) claimed that user satisfaction is how people know if a product or service meets their wants and expectations. Assuming that the customers are dissatisfied with the product or service in question if it fails to fulfil their requirements or expectations. According to a similar line of reasoning (Iwhiwhu and Okorodudu, 2012), user satisfaction with library information resources and services indicates whether or not the services and resources meet the users' expectations and whether or not they are adequate.

Ikenwe and Nam and Choi (2011) explored the level of satisfaction of the university students with e-book services in the Korean academic libraries through the usage patterns of e-book services, the quality of services, and the level of overall satisfaction of the students. The research determined that the overall satisfaction (mean = 2.93%) was low showing that e-book services were not well controlled and readily available. The level of satisfaction differed with level of study, as senior and postgraduate students were more satisfied with the services than freshmen were, mainly because of greater familiarity with the services. The research also found out that the content quality of e-book services was the most important issue to determine user satisfaction, then came the effectiveness of library support systems.

The authors suggested to enhance the library promotion policies, to reinstate the user education process and to keep up to date the e-book collections to be diverse and relevant to the needs of the users..

Kim (2008) looked into how satisfied and loyal university library users were. Adopted versions of the European Customer Satisfaction Index (ECSI) were utilized to measure user satisfaction and loyalty factors in a survey of library patrons, which constituted the research objective of this paper. To visualize an analysis of the expectations of library patrons, a survey was developed to incorporate measurement data into the library's management system. User expectations regarding the library environment and accumulation of printed materials were confirmed by the survey results.

Supplying information resources and services that align with the curriculum of university programs is how libraries fundamentally fulfill the requirements of their patrons. A library is considered to be operating at peak efficiency when the services it offers closely align with the information requirements of its patrons, as stated by Igben (1993). An investigation was carried out by Edem and Edem (2002) regarding the extent to which reference information resources were utilized in the library of the University of Calabar. Welcoming questionnaires were the contributions of two hundred and fifty (250) respondents. An equal proportion of respondents (73, or 29.20%) expressed neutrality regarding their level of satisfaction with reference information source services, with 127 (or 50.80%) expressing satisfaction. In light of this finding, it is possible to conclude that the reference materials made available by the University of Calabar to library patrons were satisfactory.

Motiang, Wallis, and Korodia (2014) conducted an assessment of user satisfaction with library services at the University of Limpopo, South Africa. The findings of the study indicate that the overall level of user satisfaction was considerable with regard to library opening hours, library registration, loan service duration, and the availability of resources including books and journals. Additionally, access to electronic resource databases and the overall quality of collection management were found to be of high standards. It is evident from this study that library patrons require services of the highest quality. This promotes library usage among patrons seeking information.

Ikenwe and Adegbilero-Iwari (2014) examined user satisfaction and utilization of public libraries in South West, Nigeria in the twenty-first century. An aspect of the research that was assessed was user satisfaction with regard to the library's information resources. They demonstrated that users were pleased with the material organization in which items are readily located via OPACs, thereby conserving the user's time. Users' satisfaction with the performance of academic libraries was the subject of a second study by Ijiekhuamhen, Aghojare, and Ferdinand (2015). Users were pleased with the administration of electronic resources, particularly the repackaging of digitized examination papers and the arrangement of books on DVDs, according to the study. This improved the provision of reference services and facilitated retrieval, leading to the greatest possible utilization of these resources.

Donati and Festo (2024) conducted research to determine the level of user satisfaction with library services in Tanzania. The objective is to assess the current provision of library services in the chosen universities, evaluate the level of user satisfaction with these services,

and analyze the impact of library service provision on user satisfaction. The study comprised a sample of 397 respondents, including academic staff, library personnel, and students from five designated universities, chosen via simple random sampling in accordance with the sample determination table established by Israel (1992). Additionally, 68 key informants, specifically heads of university departments, were selected through purposive sampling. Data of both qualitative and quantitative nature were gathered through the utilization of questionnaires and interviews. The quantitative data underwent analysis utilizing SPSS software, whereas the qualitative data were examined through content analysis. The findings revealed that the predominant services offered by libraries included circulation at 22.2%, internet access at 15.6%, and reference services at 14.9%. Moreover, the research indicated that the levels of satisfaction were statistically significant at both the 5% and 1% thresholds of significance. A significant portion of respondents, specifically 53%, assessed the quality of service regarding the availability of information as high.

Kinya and Muthee (2022) explored the correlation between the quality of services and customer satisfaction in Kenyan university libraries with special emphasis on Machakos and Kitui university libraries. The research design was a cross-sectional descriptive design that involved third to fourth year undergraduate students with a sample size of 161 students chosen by systematic random sampling. Questionnaires were used to collect data on the basis of SERVQUAL model and analyzed using both descriptive and inferential statistics. The results revealed that students visited the library regularly (daily or weekly) primarily because of individualized services by librarians. According to the respondents, there were positive elements related to the service quality such as professional appearance of the staff, proper record-keeping, and quick response to the user inquiries. Regression analysis showed

that the relationship between service quality and user satisfaction is statistically significant ($p < 0.05$) with an F-value of 22.164 and a regression coefficient of 0.782. The correlation coefficient ($R = 0.341$) helped to affirm the positive correlation between the two variables. In general, the study found that better service quality leads to more user satisfaction in academic libraries and suggested that the library services should be constantly improved in order to satisfy students better.

Nyakweba et al. (2022) studied user needs, expectations and user satisfaction with library information services in four Western Kenya universities. The study conducted using questionnaires filled by 384 students and 86 lecturers (a response rate of 73 percent) and interviews with 10 library staff revealed that most of the respondents positively rated library services but many of them indicated a lack of needs. The main problems that were identified were poor information resources, diminishing library budgets, poor facilities, and lack of skilled personnel. The research found that these restrictions had a negative impact on service delivery and user satisfaction and suggested that libraries should be better-funded to enable them to acquire the latest information tools, upgrade their facilities and increase the size of their staff.

2.6 Challenges Facing Libraries in collection management

Collection management is a fundamental aspect of libraries, ensuring that information resources meet user needs while adapting to technological, financial, and institutional changes. Libraries, in their efforts to adapt to changing demands, face ongoing challenges in collection management, as highlighted by various studies across different regions. The

challenges of financial constraints, the transition to digital resources, the evaluation of collections, and user satisfaction highlight the complexities involved in maintaining relevant and accessible collections. The manifestation of these issues is global; however, their impact and characteristics differ based on regional economic conditions, technological advancements, and policy frameworks.

In the United States, financial limitations represent a significant barrier to efficient collection management. Lee and Han (2020) note that numerous academic libraries are facing budget reductions, which restrict their capacity to obtain new resources and maintain current collections. The dependence on external funding sources intensifies the situation, rendering long-term collection planning uncertain. The financial pressure is particularly apparent in the management of electronic resources, as subscription expenses frequently exceed budgetary limits. Smith et al. (2021) conducted a mixed-methods study with 150 university librarians, demonstrating that elevated subscription costs for digital databases and journals often result in the cessation of essential academic resources. Their research highlights the increasing dependence on collaborative collection development and consortium-based acquisitions as effective strategies to alleviate financial constraints. While these approaches provide cost-sharing advantages, they also raise concerns regarding the autonomy of individual libraries in curating collections that meet specific institutional requirements.

Smith and Johnson (2021) examined the difficulties associated with collection management in academic libraries. The research utilized a mixed-methods design, incorporating surveys and interviews with 200 librarians from both public and private universities. The results

demonstrated that budget limitations constituted the main obstacle, impacting the procurement of new materials and the renewal of subscriptions for electronic resources. Moreover, swift technological advancements and the rising demand for digital resources have compelled libraries to shift from print to electronic collections, frequently in the absence of sufficient funding or staff training. The research suggested that libraries implement sustainable funding models and engage in collaboration with consortia to share electronic resources.

The shift to digital collections offers opportunities and challenges, especially in Asia, where technological advancements are swiftly transforming library services. Digital resources improve accessibility and expand the reach of information; however, their management is complicated, especially due to limitations in infrastructure and training. Zhang and Wu (2021) conducted a survey involving 200 librarians from Chinese public and academic libraries, revealing that while digitalization has enhanced access to information, obstacles such as insufficient technological infrastructure and librarian resistance to change impede effective collection management. Kumar and Singh (2020) indicate that in India, inadequate training in digital resource management is a notable issue. Qualitative interviews conducted with 50 librarians indicate that a significant proportion of professionals possess inadequate digital literacy skills, which hinders the effective management and organization of electronic collections. This finding highlights the essential requirement for ongoing professional development programs to provide librarians with the competencies needed to effectively manage digital transitions.

Liu et al. (2020) investigated the effects of digital transformation on collection management within university libraries in China. The study employed a qualitative research design, conducting interviews with 30 librarians from five prominent universities. The findings indicated that although users increasingly preferred digital resources, libraries encountered challenges including restricted access to proprietary databases, copyright concerns, and a lack of sufficient technical expertise among staff. Furthermore, collection development policies have not aligned with digital advancements, resulting in a disparity between user needs and available resources. The research indicated that enhancing investment in librarian training and implementing open-access models could address these challenges.

Branin, Groen, and Thorin (2000) observe that various factors have shaped the development of collection management, particularly with the emergence of new influences in the 1980s. This article highlights the complexities that librarians encounter as they navigate the transition into a novel and unexplored landscape, encompassing diverse requirements and evolving patterns of scholarly communication. They foresaw that digital information would instigate profound transformations in scholarly communication, consequently affecting collection management, and indicated a transition from a decentralized model of redundant print collections to a system characterized by a reduced number of central repositories. It is posited that print collections are unlikely to vanish; however, the significance of ensuring secure storage for digital materials cannot be overstated. In the contemporary digital landscape, the traditional “library model” for financing and disseminating information has come under examination regarding its relevance in an era characterized by widespread access. The study advocates for collection management librarians to spearhead the

integration of print collection management with innovative storage solutions and electronic access and delivery methods, thereby ensuring the preservation and continuity of the knowledge record.

The challenges in collection management throughout Africa are exacerbated by financial constraints, outdated infrastructure, and limited access to modern resources. Okoro and Nwafor (2021) conducted a descriptive survey involving 120 librarians from Nigerian public and university libraries, highlighting that insufficient funding notably restricts the procurement of current materials, leading to outdated collections that do not satisfy user requirements. Their study highlights that a significant dependence on donor-funded acquisitions frequently leads to the procurement of resources that do not align with local academic curricula and research priorities.

Adebayo and Omotayo (2019) investigated collection management challenges within Nigerian academic libraries. The research utilized a survey design involving a sample of 150 librarians across 10 public universities. The findings indicated that inadequate funding, obsolete materials, and deficient infrastructure constituted significant challenges. The absence of internet connectivity and restricted access to electronic journals significantly impeded effective collection management. Furthermore, insufficient policies regarding weeding and resource assessment led to the build-up of outdated materials. The study advocated for enhanced government funding, policy reforms, and capacity-building initiatives for librarians to optimize collection management practices.

Moyo and Phiri (2022) conducted a case study on three South African university libraries, revealing that digital collection management encounters considerable challenges stemming from unreliable internet connectivity and high costs associated with electronic database

subscriptions. The findings indicate that although African libraries acknowledge the importance of digital collections, infrastructural deficiencies and financial constraints persistently hinder their effective implementation and sustainability. Collection management in Kenyan libraries exemplifies the broader challenges faced across Africa, compounded by issues related to policy implementation and resource allocation.

Wanyama and Otieno (2021) conducted a survey involving 100 public university librarians, identifying financial constraints, elevated costs of electronic resources, and a lack of qualified personnel in digital collection management as significant obstacles. These challenges restrict the growth of library collections and impact their usability and relevance to academic and research requirements. Kiptalam et al. (2022) conduct a qualitative study through interviews with 30 library administrators to investigate the influence of government policies on collection management practices. The findings indicate that although Kenya possesses national policies aimed at advancing library development, inadequate implementation and enforcement mechanisms have compromised the effectiveness of these policies. This underscores the essential function of government intervention in securing sufficient financial and infrastructural resources for libraries to improve collection management.

In a study of the libraries in the 10 public universities in Kenya based on a descriptive survey of 100 librarians in five universities, Mutua and Wanjiru (2022) concluded that the most significant problem to collection management identified was financial constraint. The funding was minimal, which resulted in excessive use of obsolete print resources and a decrease in the subscriptions to the most important electronic databases. Consequently, libraries could not offer up-to-date, topical and complete information sources, which posed a

discrepancy between the expectations of users and the real delivery services. This deficiency was a contributory factor to user dissatisfaction as students and staff found it hard to access current academic content needed in teaching and research. The research also reported that poor funding frameworks were exacerbated by vague policies on collection development and poor ICT competencies of personnel, and suggested larger budgets, personnel training and institutional cooperation to elevate collection quality and customer satisfaction.

The further research in Kenya supports these results. In a survey of the chosen public universities, Odongo and Mwangi (2023) discovered that unpredictable funding sources caused delays in obtaining both print and electronic materials, which in turn created outdated collections, which could not respond to curriculum needs. The research determined that students often complained about dissatisfaction with a shortage of up-to-date textbooks and poor access to subscribed databases. It suggested that universities should give priority to ring-fenced library funding and enhance consortia acquisition of e-resources to enhance access and save money.

Likewise, according to Karanja and Waweru (2023), finances were a major barrier to academic database and journal platform subscription in Kenyan university libraries resulting in limited access to critical academic resources. This led to increased lack of research productivity among the students and the faculty which led to negative views on effectiveness of libraries. The research suggested more government and institutional funding and incorporation of shared licensing framework within universities.

In a different study, Mwangi and Otieno (2022) have noted that the reduction of budgets in Kenyan academic libraries compelled librarians to adopt more basic needs in their operations instead of collection growth leading to a limited and outdated collection of academic materials that were not reflective of the current academic trends. The customers were not pleased, especially that they could not access recent journals articles and other discipline based resources. The research suggested better budgeting and planning of libraries in terms of financial aspects and incorporation of library requirements in the institutional budgeting systems.

Generally, the Kenyan research studies are consistent that financial constraints are the main factors that restrain the capacity of academic libraries to purchase up to date and wide range of resources, resulting in old collections, limited accessibility to e-resources and eventual user dissatisfaction as a result of insufficiency of information requirements.

The literature review has revealed a consistent finding that issues with collection management, especially financial limitations, inadequate infrastructure, insufficient staffing capacity, and inefficient policies affect user satisfaction in academic libraries directly and negatively. Libraries that fail to get adequate funding fail to procure up-to-date and relevant resources leading to a discrepancy between expectations and service delivery of users. This discrepancy results in negative disconfirmation, which eventually reduces the level of user satisfaction as in Expectancy-Disconfirmation Theory.

In the global settings, research indicates that as much as financial constraints continue to be a major issue, the degree of digital adoption and policy effectiveness moderates its effect on

user satisfaction. Libraries that have more developed technologies and properly adopted collection policies can keep relevant and accessible collections, thus, enhancing user experiences and satisfaction. On the other hand, in locations with poor digital infrastructure and policy, users delay accessibility, access outdated materials, and have few resources, all of which decrease satisfaction.

In most African and developing scenarios, these issues are further compounded by poor ICT infrastructure, lack of appropriate training of library staff and uneven policy implementation. These shortcomings have a direct influence on the quality of collections in meeting user requirements. This has led to frustration of library services by users who find it hard to access up to date and pertinent materials. This underscores the importance of institutional capacity in influencing positive user outcomes.

Similar trends are reported in East Africa and Kenya, where funding constraint, unequal ICT integration, and ineffective implementation of collection management policies are the factors that inhibit the performance of libraries in providing high quality services. These issues usually culminate into slow acquisitions, lack of access to electronic materials, and collections that are not well updated and all this has a negative impact on the level of user satisfaction in academic institutions.

Hence, enhancements in user satisfaction in library services should be integrated and holistic. This covers more financial investment in library systems, the ongoing capacity-building of librarians, enhanced ICT infrastructure and effective implementation of collection management policies. These interventions would decrease the discrepancy between user expectations and reality of service delivery resulting in positive

disconfirmation and increased user satisfaction. In the absence of these strategic actions, libraries risk making collections which do not react well to the changing academic and research demands of the people who patronize them.

2.7 Research Gap

The literature review has shown that there has been massive change in the library collection management as a result of technological change, change in user needs and the rising popularity of the electronic resources. Research has continually demonstrated that libraries are shifting to hybrid collection models, combining print and digital resources to enhance accessibility and user satisfaction (IFLA, 2023; Lorcan Dempsey, 2021). Nevertheless, even with this change, the old challenges like the lack of funding, poor policy development of collection, lack of ICT infrastructure, and lack of staff capacity still impact the efficient management of collections in all parts of the world (Smith and Johnson, 2021; Zhang and Wu, 2021; Okoro and Nwafor, 2021).

The literature also points to the long-standing structural and operational limitations, such as the existence of outdated resources, ineffective policy application, a lack of access to electronic databases, and a low level of digital literacy of the library staff, in the context of Africans and the Kenyan context (Adebayo and Omotayo, 2019; Wanyama and Otieno, 2021; Mutua and Despite the existence of national and institutional policies to shape the development of collections, their usage is rather weak, which contributes to the inefficiency of the arrangement of resources and service provision (Kiptalam et al., 2022). The gaps have

direct implications on the relevance, accessibility, and usability of information resources in academic libraries.

It is important to note that the majority of empirical research focused on general collection management issues, ICT adoption, and user satisfaction in university libraries with a heavy focus on institutional or even national-level analysis. Minimal focus has been on the particularity of information resources and the role of their management in determining user outcomes in individual institutional libraries, especially in developing universities like Masinde Muliro University of Science and Technology (MMUST). Also, although other studies have recognized the shift of the print collections to the digital collections, not many have critically looked at how the shift influences the effectiveness, access and use of various information resources in a single library system.

Moreover, the current literature is mostly overdeveloped countries or generally compares regions without sufficiently addressing the situation-specific issues that Kenyan academic libraries are dealing with particularly regarding the distribution of resources, digitalization, and the institutional level implementation of the policies. Little empirical data is also available regarding the manner in which the practice of collection management in MMUST library is responsive to the changing needs of the users in an academic setting that is knowledge based and ICT centric.

Thus, there is evident research gap in the nature of information resources in MMUST library and the impact of their management on the accessibility, relevance and user experience in

the framework of current academics requirements. This paper aims to fill this gap by considering the composition, management practices and effectiveness of information resources in MMUST library as a way of informing evidence based enhancement of collection development and service delivery.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research methodology that was used in the study, it describes the research design, research approach, study location, target population, sample size and sampling techniques, research instruments, validity and reliability of the research instruments, data collection procedures, data analysis and ethical issues.

3.2 Location of the Study

The research was done in Masinde Muliro University of Science and Technology (MMUST) Library in Western Kenya. The library was chosen due to its status as an established academic library that has a hybrid collection model, consisting of both print and electronic materials that rely on the new digital technologies like online databases and institutional repositories. This renders it appropriate to evaluate the practices of collection management in a contemporary academic library setting.

The MMUST Library was selected methodologically because it has a wide range of users comprising of students, academic staff and researchers who use library resources extensively in teaching, learning and research. This variety offers credible information about the expectation and satisfaction of the users.

The library was also chosen due to the fact that it demonstrates typical collection management challenges encountered in other organizations of the same nature, such as financial limitations, changing digital needs and struggles with the balance of print and electronic materials. These aspects are what predispose it to be an adequate case to consider the effectiveness of collection management practices and their impact on user satisfaction.

MMUST Library provides a topical and informative case to examine the interconnection between collection management and user satisfaction, whose results can be generalized to other similar academic libraries.

3.3. Research Design

A research design is the general outline of how a study is carried out, such as the variables that are identified, data collection methods, and data analysis methods (Creswell and Creswell, 2018). In this research, descriptive research design was taken. The design was suitable since it allowed the researcher to describe and explain existing conditions, behaviours and relationships in a systematic manner without having to manipulate any variables. Descriptive design was specifically appropriate in analyzing real-life scenarios in their natural state and therefore it is effective when conducting studies that aim to know the existing practices and their consequence. Here, it enabled a detailed analysis of collection management practices and their impact on user satisfaction in the library setting without interference of an experiment. It is also ethically appropriate because it is non-experimental, it does not modify the environment or interfere with the usual activities of the participants (Saunders, Lewis and Thornhill, 2019).

Descriptive research design enabled the research to produce a comprehensive and precise report of collection management practices at Masinde Muliro University of Science and Technology Library, thus offering useful information on how such practices determine user satisfaction in the institutional setting.

3.4 Target Population

The target population is the whole population of the people on which the study is making inferences. The population in this study was registered postgraduate students and selected groups of library staff at Masinde Muliro University of Science and Technology (MMUST) Library, Kenya. This population was deemed suitable as it has first-hand interaction with the library information resources and collection management systems and therefore it can provide informed and credible information on user satisfaction and efficacy of library services.

There were 430 registered postgraduate students in the study. This population was conveniently identified since postgraduate students are the aggressive consumers of academic library resources, especially in conducting research, writing their thesis and producing academic journals. Their degree of exposure to advanced information sources like journals, databases, and reference sources allow them to offer critical reviews of the sufficiency, suitability, and availability of library collections. Postgraduate students are more exposed to research-based information requirements, as opposed to the undergraduate students, so the responses are more appropriate to evaluate the effectiveness of collection management.

Undergraduate students were locked out of the study due to methodological reasons. The reason is that their access to library resources is mostly restricted to prescribed textbooks and general course readings, which might not be a deep enough experience to give them a chance to assess technical features of collection management like policy efficacy, use of databases, or collection sufficiency. Omitting the undergraduate respondents served to

ensure that the information obtained was based on knowledgeable and experience-based decisions and this enhanced the reliability and validity of the study results.

Other important categories of library personnel that are directly engaged in the processes of management of collections were also included in the study. These included the Deputy University Librarian, five sectional heads, four technical employees, eight circulation staff, one reference librarian, and four virtual library staff. The categories used were chosen purposely depending on the functional role they play in the management of library resources. The Deputy University Librarian is the policy leader and strategist, and the sectional heads are those who implement policies of collection development in specific library sections. Technical personnel are tasked with cataloguing, classification and maintenance of systems and resources are well organized and made available.

Circulation section staff were also involved since they directly deal with users and handle the borrowing/returning of materials, which will give them insight into the pattern of resource utilization. The reference librarian is instrumental in assisting the users in finding information and in answering research questions, thus his contribution is important in the measurement of user satisfaction. Staff in virtual libraries were also incorporated because they are the ones who are involved in the management of electronic resources, digital access systems and online services which are becoming the center of collection management practice in the contemporary world.

In general, the target population was carefully designed and included both advanced users and key implementers of the collection management policies. User-based views of the library satisfaction and resource adequacy were offered by postgraduate students, whereas the library staff offered professional views of policy implementation and operational

challenges. This mix guaranteed a holistic and balanced perception of collection management and user satisfaction in MMUST Library. This population was directly involved in the study as it is extensively used and involved with library collections as illustrated in Table 3.1 below.

Table 3. 1: Target population

Respondents	Target population
Deputy University Librarian	01
Library Section heads	05
Technical staff	04
Circulation staff	08
Reference librarian	01
Virtual library staff	04
Registered post graduate students	430
Total Target Population	453

3.5 Sample Size and Sampling Procedures

Sampling refers to the procedure of choosing a subset of a population so that the selected group comprises elements that are representative of the attributes prevalent in the entire population (Mugenda & Mugenda (2003). The statistical procedure that was chosen for the study was simple random sampling, which ensures that all members of the population have an equal opportunity of being selected as samples. It is an essential method for collecting information and drawing conclusions about a sizable population. The study went for a sample size of 86 for post graduate students' respondents representing 20% of the target population. A lesser and more manageable proportion of the population that is amenable to

study and analysis is represented in the sample. According to Mugenda and Mugenda (2003), a generalization could be made with as little as 10 to 30 percent of the target population,. Census sampling procedures was used to select all the staff that included the Deputy University Librarian, five section heads, and seventeen other staff members, as a result of the tiny number of respondents. The population was also purposively selected because it had the characteristics related to the information being sought. The students were selected randomly.

Table 3. 2: Sample size

Respondents	Target population	Procedure	Sample size
Library top management	01	Census	01
Library Section heads	05	Census	05
Technical staff	04	Census	04
Circulation staff	08	Census	08
Reference librarian	01	Census	01
Virtual library staff	04	Census	04
Post graduate students	430	Simple random	86
Total Target Population	453		109

3.6 Research Instruments

The data collection instruments used in this study were questionnaires and interview schedules.

3.6.1 Questionnaires

Closed-ended questionnaires with Likert scale statements were utilized to collect quantitative data for the study from post graduate students and staff. The use of questionnaires was favoured over other methods due to their usability when dealing with

large data sets. Questionnaires were preferred because of their convenience to the respondents who only needed to pick on the most appropriate constructs as response. Besides, questionnaires enabled the researcher to elicit large sets of data within a minimum period hence its preference by the researcher.

3.6.2 Interview Schedule

The interview schedule serves as a valuable resource of inquiries that the interviewer poses to the interviewee. Interview schedules are commonly employed tools for gathering data due to the fact that they enable participants to furnish comprehensive and exhaustive information or account of events (Byrne, 2009). The interview schedule included open ended questions that were arranged as per study objectives. The utilization and implementation of an interview schedule as part of the data collection procedure in this study presented a remarkable opportunity to solicit and amass information and thoughts from participants regarding a vast array of topics. Interview schedules were meant for collecting qualitative data from the Deputy University Librarian. Thematic areas of the interview scheduled included Nature of Information Resources in collection management at MMUST Library; Institutional policy on management of library resources; user satisfaction level of information resources and services and challenges facing MMUST in managing a balanced library information collection

3.7 Reliability and validity of the study

This section discusses the reliability and validity procedures and criteria that were used to ensure the reliability and validity of the study instruments and results. It provides explanations on how consistency, accuracy and credibility of the data were achieved to ensure the quality and trustworthiness of the overall research results.

3.7.1 Validity of the Research Instruments

The validity of the study was maintained in a systematic and rigorous process that sought to match the research instruments with the objectives of the study. First, the interview schedule and questionnaire were designed diligently with respect to the key variables and constructs of the study, making sure that all the pertinent areas of collection management and user satisfaction were well captured. To enhance this correspondence, the instruments were undergone expert scrutiny wherein the supervisors and experts in the field of library and information science reviewed the items and checked their relevance, clarity and coverage. This procedure assisted to verify that the tools were able to measure all the spectrum of the concepts being examined, which is in tandem with the definition of content validity as put forth by Mugenda and Mugenda. Also, ambiguous or unclear items were discovered and amended to enhance clarity and avoid misinterpretation. This process of reviewing and revising the instruments helped to make each item relevant to the measurement of the targeted constructs, thus improving the overall validity of the data collection instruments.

The pilot study was further validated using Kibabii University Library. Kibabii University was chosen as the pilot study area because of a number of reasons. First, the institution resembles the main study location, specifically, regarding its academic library structure, services, population of its users, etc., which contributes to it being an adequate place to pilote the instruments. Second, it was not close to the geographical location of the main study area and, thus, the chances of contaminating the actual study sample were minimal but still offered a similar environment. Third, the ease of access to the institution made data collection at the pilot stage easy. The pilot consisted of giving the fifteen questionnaires to

library staff and postgraduate students as well as conducting an interview with the University Librarian to enable the researcher to determine the clarity, relevance and comprehensiveness of the instruments in the actual sense. The results of this exercise were feedback provision, which resulted in reframing questions that were not understood, deletion of irrelevant questions, and language and sentence structure. The process made the final instruments structured, clear and in a position to capture the intended data accurately, which enhanced content and construct validity.

3.7.2 Reliability of the Research Instruments

Smith (2008) defines reliability as the degree of consistency that an instrument exhibits when utilized repeatedly under analogous circumstances. The assessment of instrument reliability was conducted via a pilot study. The researcher randomly distributed fifteen questionnaires to a population with similar characteristics of the actual sample in a period of two weeks. Cronbach's alpha was utilized to calculate the instrument's reliability index. The reliability index was determined as per (Orodho 2012) guidance; that instruments with a reliability index of 0.70 or greater are deemed reliable for the purpose of data collection.

The pilot study was carried out on 5 library staff and 10 postgraduate students of Kibabii university. Th findings were used to test the validity and reliability of the tools on the information resources, collection management practices, and factors influencing them. For data to be considered valid and reliable in statistics, their coefficients must be at least 0.70. The reliability of the gathered data was assessed in this instance through the utilization of the Cronbach's (α) test, which ensured the accuracy of the analysis outcome. The summary of the Cronbach's (α) test results is provided in the table that follows.

Table 3. 3: Cronbach's Test Output

Factors	No. of Variables Tested	Cronbach's Coefficient	Remarks
Nature of Information Resources and ICT Integration	2	0.821	Reliable
Collection development policy in collection management	4	0.848	Reliable
Challenges	3	0.836	Reliable

Based on the result above, it is evident that the instruments used in the data gathering process were valid and reliable to guarantee and assure the generation of dependable analysis output.

3.8 Data Collection Procedures

The researcher got an introductory letter from Kisii University and then applied for a research permit from National Commission for Science, Technology and Innovation (NACOSTI). Upon receiving the permit, a copy was forwarded to the MMUST authorities i.e., University librarian for permission to conduct research. Once permitted, the researcher employed the following techniques in data collection.

3.8.1 Questionnaire administration.

Questionnaires were given to postgraduate students and library staff. The use of questionnaires was given to students because the various information was easily obtained through a significant number of respondents. The questionnaires were issued in a one-on-one manner. The questionnaire comprised of Likert scale questions which were rated from strongly disagree to strongly agree. The researcher adopted a delivery and collection approach when collecting the data; here the researchers conducted the delivery of the

questionnaires personally early in the day and they collected the filled questionnaires later in the day.

3.8.2 Interviews

The researcher interviewed the respondents on the constructs under interrogation in the study. The researcher personally probed the Deputy University Librarian guided by the interview schedule. The respective code utilized was R1 for Deputy Librarian. The responses were noted down in a note book and also recorded on a mobile phone for transcription and analysis.

3.9 Data Analysis.

Data analysis is a process of examining, cleaning, transforming, and interpreting the data collected in a systematic way to produce valuable insights to aid in decision-making and research conclusions (Johnson and Christensen, 2014; Creswell and Creswell, 2018). The analysis of quantitative data in this study was done using the Statistical Package of Social Sciences (SPSS) version number 22.0. Use of SPSS also helped in the entry of data, the coding and calculation of descriptive statistics. The frequency distributions, percentages and tabular summaries were used to present the analyzed data in order to present a clear overview of respondent characteristics and critical study variables. Besides this, pie charts, and bar charts were employed to make the results more clear and easy to interpret.

The use of descriptive statistics was mainly to summarize and articulate the trends in the data, especially regarding the practices used in the collection management and the level of user satisfaction. This method helped the researcher to find patterns, identify the similarities and differences in the responses to various categories, and make logical inferences based on

the data. Tables and figures used made sure that complex data was presented in a well-arranged format that could be easily interpreted.

Thematic analysis was used to analyze qualitative data collected through interview schedules. This was a methodical procedure of transcribing the responses of the interviews, coding the data, and finding common patterns and themes that are pertinent to the research goals. The themes identified were then explained and explained with direct quotes and narrative description of the participants to boost the results and give a contextual background. The respondents were not referred by their names to maintain confidentiality and ethical conduct; they were given codes.

In general, the combination of quantitative and qualitative methods of analysis (triangulation) not only increased the credibility and completeness of the study results but also enabled a more comprehensive view of the collection management practices and their impact on user satisfaction.

3.10 Ethical Considerations

In research, it is expected that all participants adhere to the same set of ethical principles that govern moral decisions regarding our conduct and interactions with others (Saunders et al., 2003). Among the ethical concerns that may arise during the course of academic research are issues such as data fabrication, plagiarism, and breach of confidentiality. Every ethical consideration was carried out in this study, including but not limited to the following: The collection of data requires authorization from the appropriate authorities, including clearance from the School of Postgraduate Studies at Kisii University, the government via the Ministry of Higher Education, NACOSTI and MMUST Management. The respondents were asked to

make an informed consent before participating in the study. The respondents' identity remained anonymous and confidential through the use of instructions that prohibited the inclusion of their names. The gathered data was utilized exclusively for the objectives of the research. The researcher duly acknowledged the original sources in the citations section, and every source that was consulted was included in the reference list. The document underwent check through Turnitin to determine the extent of plagiarism.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents data analysis, discussion and interpretation of data according to the study objectives.

4.2 Response Rate

The study aimed to collect data from 109 respondents that include 23 MMUST library staff members and 86 postgraduate students. 108 questionnaires were distributed to 86 students and 22 library staff. 105 were properly completed and returned to the researcher for analysis from 86 students and 19 Library staff. 1 interview was conducted to the Deputy University Librarian.

Table 4. 1: Questionnaire response rate

Response	Frequency	Percent
Number of questionnaires returned by 86 students		100
Number of questionnaires returned by staff 19 respondents		86
Number of questionnaires not returned by 3 staff respondents		14
Interview of Deputy University Librarian	1	100
Total	109	100

The response rate as discussed in Table 4.1 which was 100 percent among postgraduate students and 86 percent among staff is very high. Mugenda and Mugenda suggest that response rates of 70% and higher are excellent and thus the achieved rates are more than that.

Regarding validity, such high response rates boost the validity of the collected results by reducing the non-response bias i.e. the data obtained will likely represent correctly the views of the target population. This enhances internal validity as the findings are founded on an adequate number of respondent representatives.

In terms of generalization, the high response of the participants, particularly full response of the postgraduate students, indicates that the results can be reasonably generalized to the broad population in the study setting. The staff response rate of 86% is also sufficiently high to make valid inferences, albeit with a small margin of caution as a result of the low percentage of non-responding. On the whole, such high response rates enhance the credibility as well as the level to which the study results would be applicable in similar institutional environments.

4.3 Demographic Information

The study sought to find out the demographic data of the respondents such as, library sections they work, how long they have been working in the library, and their qualifications. It is necessary to collect the demographics information because they are essential for reasonable understanding and interpretation of the study findings. For instance, the library section respondents work in, the years they have served in the library, their

academic/professional qualification etc. It was necessary to discern whether those demographics variables have had an impact on their experiences, perceptions and responses to the phenomenon.

In addition, the demographic details enabled the researcher to conduct an extensive description of the study population. This makes it possible to ascertain how varied and representative the respondents of the study are. Additionally, this information allowed the researcher to compare the perspectives of various categories of personnel. In a like manner, it also helped in clarifying the differences in the.

4.3.1 Period worked in the library

The study sought to establish the period the library staff have been working in the MMUST Library. The findings are shown in Table 4.2.

Table 4. 2: Period Staff have been working in the Library

Period in Years	Frequency	Percentage
1-4 years	1	4%
5-10 years	3	13%
11- 15years	12	52%
16 and above	7	30%

Table 4.2 shows that the majority of the staff members have a working experience of more than 10 years in MMUST Library, with 52 percent of the respondents having a working experience of 11-15 years and 30 percent having a working experience of 16 years or more. Moreover, 13% had been employed between 5-10 years, and only 4% had 1-4 years

experience. This means that most staff at the MMUST Library has a considerable amount of work experience and, thus, understands the library operations in detail. Therefore, they were in a good position to give informed answers on the nature of library materials, satisfaction of users and other factors that affected the process of collection management.

Nevertheless, although long service is positive in terms of knowledge of the institution and increasing the credibility of the answers, the long service can also be problematic. Employees that have worked long durations might be more used to conventional ways and might be resistant to change or innovation in collection management methods. This can restrain the diversity of perspectives, especially with regard to some more recent developments like digital resource management and user-centered services. Also, working in the same environment over a long period can result in routine bias, and respondents can give answers according to the existing norms instead of critically analyzing existing practices. Thus, as much as the staff experience enhances the depth and credibility of the data, one should put into consideration the likelihood of conservative opinions that may affect the findings.

4.3.2 Respondents Level of Education

The study sought to establish the level of education of the library staff in the MMUST library. Table 4.3 summarizes the findings.

Table 4. 3: Respondents level of Education (Personnel)

Qualification	Frequency	Percentage
Certificate	1	5%
Diploma	4	21%
Bachelors	7	37%
Postgraduate Diploma	3	16%

Masters	4	21%
Total	19	100%

The results in Table 4.3 indicated that a notable segment of the personnel, 37%, possessed a bachelor's degree, while 21% held a master's degree, and an additional 21% had attained a diploma. Furthermore, 16% had achieved a postgraduate diploma, whereas 5% possessed a certificate qualification. These findings correspond with previous research that underscores the significance of academic credentials in improving the efficacy of library services. A study conducted by Ocholla and Ocholla (2020) regarding university libraries in Kenya indicated that an elevated level of educational attainment among librarians enhances service delivery, user satisfaction, and the integration of emerging library technologies.

In a comparable vein, research conducted by Kavulya (2007) regarding the qualifications of library personnel in Kenyan universities revealed that a significant proportion of professional librarians held a minimum of a bachelor's degree, a prerequisite for upholding elevated standards within academic libraries. The results of this investigation indicate that the MMUST library is staffed by a highly qualified workforce, with a significant percentage holding advanced academic qualifications that are poised to enhance library management and service delivery. Nevertheless, in contrast to global research like that conducted by ACRL (2021), which promotes the necessity for enhanced postgraduate qualifications among academic library personnel to facilitate advanced research and digital transformation, MMUST library might benefit from fostering additional professional development to meet international benchmarks.

4.3.4 Level of Study by Postgraduate Students

The study sought to determine the level of study of the post graduate students who participated in the study. The results are summarized in Table 4.4.

Table 4. 4: Postgraduate Student Programme of Study

Programme of Study	Frequency	Percentage
Masters	56	65
PhD	30	35

Table 4.4 shows that a considerable percentage of the postgraduate students were undertaking master programs, which consisted of 65 percent of the sample and 35 percent were doing PhD programs. It is important to note that the library did not record any cases of postgraduate diploma among the library users during the study period. This indicates that masters students constitute the most important group of users of the library, probably because of their demanding courses and research need, which can require access to a wide range of information sources on a regular basis.

These results are in agreement with the more recent studies on the use of postgraduate libraries. As an example, Aina (2019) notes that students of the master level are the most active users of academic libraries, since at this stage they are at the decisive point of mastering the research skills and writing dissertations, which presupposes a significant amount of consulting print and electronic sources. In the same vein, Kumar (2021) discovered that, whereas PhD students have extensive access to scholarly material, they tend to utilize more specialized databases, institutional repositories, and resources guided by their supervisor as opposed to regular physical library usage.

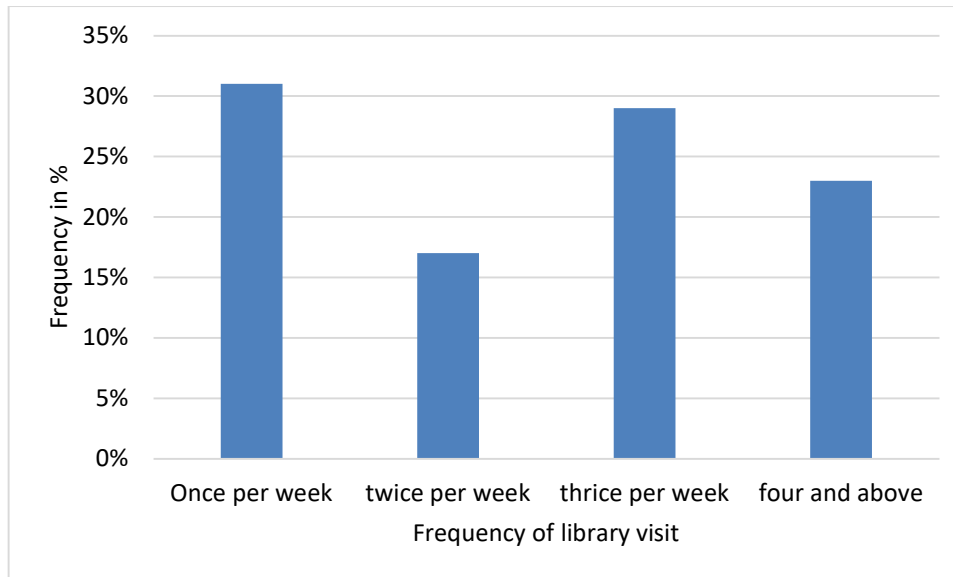
Moreover, recent data indicate that postgraduate diploma students are usually less engaged in libraries because of the shorter length and more practice-focused programs, which might be the reason as to why they were not included in the research. In general, the fact that master students tend to dominate in terms of library usage is an indication of their intermediary academic status where formal learning collides with independent research, making them more dependent on library services than other post graduate groups.

The absence of Post graduate diploma students in the study could be attributed to various factors, including their preference for digital resources, remote access to academic materials, or reliance on personal research collections rather than physical library visits (Kakai, Odongo, & Bwire, 2017). Furthermore, the relatively higher enrollment in master's and PhD programs compared to Post graduate diploma studies reflects broader national trends in higher education, where doctoral studies remain less populated due to factors such as funding constraints, time demands, and the rigorous nature of doctoral research (Mutula, 2019). These findings suggest that university libraries should enhance their digital resource services and outreach efforts to attract and support PhD students, ensuring that all postgraduate learners have adequate access to academic resources.

4.3.5 Frequency of library visit by Postgraduate Students

The study sought to determine how often the post graduate students visit the library. Figure 4.1. Illustrates the findings.

Figure 4. 1: Frequency postgraduate student visit the library



The data presented in Figure 4.1 indicates that a relatively large proportion of postgraduate students (31%) visit the university library once per week. This is followed by 29 percent that visit three times/week, 23 percent visit four or more times/week and only 17 percent visit twice/week. Generally, the results indicate that postgraduate students at MMUST use libraries moderately and not intensively.

The prevalence of visits once per week can be attributed to a number of reasons. First, postgraduate students frequently use digital sources of information, such as online journals, e-books and institutional repositories where they do not have to visit the physical library too often. Second, a good proportion of postgraduate students have work, teaching, or research obligations that restrict their time in using libraries regularly. Third, the library might be

utilized with the primary use as a particular activity, like borrowing books, or using special databases, or visiting quiet study locations, as opposed to academic daily activity. Also, convenience aspects like the proximity to the library, the existence of online access, and suitability of home or departmental study areas might also play a role in decreasing the frequency of visitation.

User satisfaction is directly proportional to the number of times a person visits the library. In most cases, students who visit library more are more likely to report satisfaction due to increased exposure of library services, resources and staff support, so that they can enjoy the benefits of what they offer. On the other hand, the low frequency of visits can be an indicator of great satisfaction with alternative digital resources or lack of satisfaction with a particular aspect of the library, e.g., the sufficiency of resources, their accessibility, or efficiency of the provided services. This is consistent with the results of Olanrewaju and Edem (2017) who noted that the more users are exposed to library services, the more they become satisfied with the services because of the improved awareness and use of available services. Equally, Akinyemi and Bassey (2019) established that the satisfaction levels among postgraduate students who regularly use library services are higher than those with limited usage, which is mostly because of knowledge about systems and better access to academic resources.

Based on the current investigation, the average number of visitations indicates that although the library is still pertinent to the postgraduate academic work, it might not be the main hub of resources to be utilized daily. This may mean that the level of satisfaction may be affected

not by physical visits alone but also by the efficiency of other access mediums like digital libraries. Consequently, the results indicate a two-sided correlation in which satisfaction can be motivating to remain with limited yet meaningful visits, or limited satisfaction with physical services can drive students to remote access solutions.

4.3.6. Preferred Library Information resource format in MMUST Library

The study sought to assess the preferred information resources by the postgraduate students.

The results are summarized in Table 4.5.

Table 4. 5: Preferred information resource format by Post Graduate students.

Statement	1	2	3	4	5	N	Mean	SD
	F (%)	F (%)	F (%)	F (%)	F (%)			
The availability of textbooks and reference books in the library meets my academic needs	16 (19%)	22 (26%)	5 (6%)	26 (30%)	17 (20%)	86	3.13	1.42
The quality and relevance of print journals and magazines in the library are satisfactory	12 (14%)	16 (19%)	0 (0%)	29 (34%)	29 (34%)	86	3.55	1.39
The library has an adequate collection of research theses and dissertations	13 (15%)	30 (35%)	2 (2%)	16 (19%)	25 (29%)	86	3.16	1.39
The library provides adequate access to e-books and online journals	14 (16%)	20 (23%)	2 (2%)	25 (29%)	25 (29%)	86	3.34	1.42
I find the institutional repository useful for accessing scholarly content	16 (19%)	18 (21%)	0 (0%)	29 (34%)	23 (27%)	86	3.28	1.44
The library subscribes to a sufficient number of academic databases (e.g., JSTOR, ScienceDirect, Emerald)	17 (20%)	21 (24%)	0 (0%)	23 (27%)	25 (29%)	86	3.26	1.47
The availability of computers and internet access in the library is sufficient	21 (24%)	18 (21%)	0 (0%)	24 (28%)	23 (27%)	86	3.12	1.50

Key: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree M – Mean, SD – Standard Deviation

The results indicated that in general, the postgraduate students have a moderate to positive perception of library resources with mean scores ranging from 3.12 to 3.55 and relatively

high standard deviation with values ranging from 1.39 to 1.50, which reflects variation in students' experiences and satisfaction with library resources.

The statement with the best rating was “The quality and relevance of print journals and magazines in the library are satisfactory” ($M = 3.55$, $SD = 1.39$). This indicates that although the world is moving to become digital, scholarly print materials are still highly valued among postgraduates. The results are consistent with those of Tenopir et al. (2020) and Okello-Obura (2021) who report that print journals remain important in academic research, especially when digital access is limited or expensive.

Relatively positive ratings were also given to access to electronic resources. The mean scores for the questions 'The library subscribes to an adequate number of academic databases' and 'The library provides adequate access to e-books and online journals' were 3.34 ($SD = 1.42$) and 3.26 ($SD = 1.47$) respectively. The results show an increase in the use of digital academic content, with a moderate score suggesting that access is not yet optimal. This aligns with the observations of Salaam and Adegboire (2022) who noted that although African university libraries are increasing their e-resource subscriptions, bandwidth, licensing and authentication remain the challenges facing the full utilisation of these resources.

The institutional repository was also rated moderately ($M = 3.28$, $SD = 1.44$), indicating that the institutional repository is gaining importance as a scholarly tool for postgraduate studies. The moderate mean, however, does not necessarily mean that awareness or ease of access is

less. The same findings were reported by Mutula and Onyango (2021) who found that institutional repositories in East Africa are not utilized because of lack of user training and content visibility.

The mean for textbooks and reference books on traditional resources was 3.13 (SD = 1.42) which represented moderate satisfaction, and the mean for theses and dissertations was 3.16 (SD = 1.39) which also represented moderate satisfaction. The results indicate that although print collections are still relevant, they are not sufficiently fulfilling the post-graduate academic requirements. This aligns with the findings of Aina and Mutula (2020) where they noted that there are problems with depth and currency of print collections for post-graduates particularly in the fast emerging fields.

Infrastructure related support services had the lowest mean ($M = 3.12$, $SD = 1.50$). This shows that ICT infrastructure is still problematic, impacting access to print and electronic resources. This corroborates the work Ocholla and Mutula (2022) have conducted that noted that weak ICT infrastructure continues to be a significant challenge for delivering academic library services in sub-Saharan Africa.

Overall, the findings indicate that both print and electronic resources have a dual preference for post graduate students in the academic library, which is indicative of the transitional stage in the academic library services delivery. Digital resources are becoming more significant but still having limitations due to infrastructure and capacities.

4.4 Nature of Information Resources at MMUST Library.

4.4.1 Types of Information materials

The study sought to establish the types of information materials that were available in the MMUST library. The researcher sought to get this from the staff who were to respond to statements that were rated on a likert scale where Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5). Table 4.6 below displays a summary of the results.

Table 4. 6: Types of Information Resources in MMUST Library

Statement	1 F (%)	2 F (%)	3 F (%)	4 F (%)	5 F (%)	Mean	SD
The MMUST Library has a sufficient collection of reference books to meet academic and research needs.	0 (0%)	0 (0%)	0 (0%)	9 (43%)	12 (57%)	4.57	0.50
The MMUST Library has a sufficient collection of books to meet academic and research needs.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	21 (100%)	5.00	0.00
The MMUST Library provides access to a wide range of newspapers for current affairs and research purposes.	0 (0%)	1 (5%)	0 (0%)	5 (24%)	15 (71%)	4.62	0.68
The library has an adequate number of academic journals to support studies and research work.	0 (0%)	3 (14%)	0 (0%)	7 (33%)	11 (52%)	4.43	0.86
The MMUST Library offers a variety of magazines covering different fields of interest.	4 (19%)	7 (33%)	0 (0%)	7 (33%)	3 (14%)	3.10	1.20

Key: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5), M =

Mean, SD – Standard Deviation

Table 4.6 indicates that overall, postgraduate students at MMUST have a positive view of the adequacy of library information resources, but this view differs depending on the type of resource.

The statement on the availability of books showed a perfect mean of 5.00 (SD = 0.00), which showed a strong agreement among all that the library has enough books to meet academic and research demands. Equally, the reference books (Mean = 4.57, SD = 0.50) and the newspapers (Mean = 4.62, SD = 0.68) received a high rating indicating that the students found the resources to be convenient and easily accessible in performing their academic tasks and keeping abreast with the current affairs. The standard deviations of these items are relatively low, which means that there is a high level of agreement among respondents.

Availability of academic journals (Mean = 4.43, SD = 0.86) also received positive ratings although lower than books and reference materials. This implies that although journals are usually available, there might be a question of sufficiency, timeliness, or completeness of coverage. This result is consistent with the recent literature that highlights the fact that academic libraries in Africa are becoming more empowered in terms of digital access to journals, although they are still confronted with the issues of subscription fees and coverage (Bangani, 2023; Shikali and Muneja, 2024). Equally, research by Kalota et al. (2025) demonstrate that although access to digital journals has been enhanced, institutional barriers continue to influence scope of access across most universities.

On the contrary, magazines had the lowest mean (3.10, SD = 1.20) which shows a neutral to negative perception among the respondents. The standard deviation is rather high, which implies a variety of views, i.e., some students believe that magazines can be helpful, and others do not believe they are necessary to conduct postgraduate academic studies. This is in

line with the recent evidence that postgraduate learners would prefer scholarly journals and books to general-interest magazines, which are perceived as not as critical to research-based study (Azib et al., 2025).

The findings indicate that MMUST Library has a specific advantage of offering the main academic materials including books and reference materials, which are at the centre of postgraduate education. Nevertheless, the relatively low score of the journals and particularly magazines suggests that there is a need to further enhance the growth and diversification of scholarly and supplementary materials.

The results are also representative of larger patterns in the use of academic libraries. Recent research indicates that postgraduate learners are paying much attention to the quality of scholarly resources, access, and online accessibility of scholarly materials, especially journals, which are directly correlated with research productivity and academic achievement (Olanrewaju and Edem, 2017; Bangani, 2023). Thus, resource adequacy is directly related to user satisfaction, whereby more robust collections of core academic materials tend to contribute positively to user satisfaction as can be seen in the high mean scores in this study..

These data indicate that MMUST Library is adequately provisioned with books, newspapers, and academic journals, conforming to optimal standards in academic library administration. Nonetheless, there exists potential for enhancement in diversifying the selection of periodicals to accommodate a wider range of intellectual and personal interests.

While interviewing the respondents, R1 stated the following:

“Our library has a blended information collection which adequately meets the needs of our users. The resources range from books,

reference works, research databases, magazines, newspapers among many many others”

The view expressed by respondent R1 highlights the diversity and comprehensiveness of the library's information collection. According to R1, the library employs a blended approach to resource acquisition, which suggests a mix of both physical and digital materials. This variety ensures that the library is well-equipped to meet the varied needs of its users, ranging from academic and research needs to general knowledge and current awareness. The inclusion of resources such as books, reference works, research databases, magazines, and newspapers indicates an intentional effort to cater to different user preferences and information-seeking behaviors. Overall, R1's statement reflects a positive assessment of the library's capacity to support learning, teaching, and research activities through a well-rounded and accessible collection.

The findings are in line with Ntui and Orim (2014) who maintained that a good library should be well equipped with books and periodicals in all subjects to advance research.

4.4.2 Formats of Information Materials

The study sought to establish the information formats available in the MMUST library. To gather this data from library staff respondents, the researcher availed statements in relation to information formats rated on a Likert scale where Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5). Table 4.7 displays a summary of the results.

Table 4. 7: Information Resources at MMUST Library

Statements on Information Formats in MMUST Library	1 F (%)	2 F (%)	3 F (%)	4 F (%)	5 F (%)	Total N (%)	Mean	SD
MMUST Library provides a sufficient collection of print media resources (e.g., books, newspapers, magazines, and journals) to support academic and research needs.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	19 (100%)	19 (100%)	5.00	0.00
MMUST Library offers a well-organized e-resources collection (e.g., e-books, online journals, and databases) that is easily accessible to students and faculty.	0 (0%)	0 (0%)	0 (0%)	3 (16%)	16 (84%)	19 (100%)	4.84	0.36
The library has an adequate number of audio-visual resources (e.g., CDs, DVDs, and audiobooks) to enhance learning and research.	0 (0%)	12 (63%)	0 (0%)	3 (16%)	4 (21%)	19 (100%)	2.95	1.28
MMUST Library provides a variety of multimedia resources (e.g., interactive learning tools, digital presentations, and recorded lectures) to support diverse learning styles.	3 (16%)	11 (58%)	0 (0%)	5 (26%)	0 (0%)	19 (100%)	2.37	1.04

Key: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5), M =

Mean, SD – Standard Deviation

The findings in Table 4.7 suggest that MMUST Library excels in terms of offering print and electronic information resources, but has significant flaws in terms of multimedia and audio-visual resources. This trend directly translates into the user satisfaction as the sufficiency and variety of the information formats largely determine the extent to which the academic needs of the users are addressed.

The very high level of user satisfaction with traditional information sources like books, journals, and newspapers is evidenced by the unanimous consensus (Mean = 5.00, SD = 0.00) that the library offers adequate resources of print media. This unanimity indicates that the users feel the print collection to be dependable, all-inclusive and in good condition, which further supports the high levels of satisfaction. These results are similar to those of Otike and Ombongi (2023), who noted that print resources are still considered very important in academic libraries because of their credibility and relevance in academic activities.

In the same light, the high level of agreement on the electronic resources (Mean = 4.84, SD = 0.36) of which 84% strongly agreed and 16% agreed indicates high user satisfaction with the electronic services of the library. The low standard deviation shows that there is a consistent positive perception among the respondents, which implies that users are generally satisfied with the availability of e-books, online journals and databases. This is corroborated by Musakali and Njuguna who reported that increased adoption of electronic resources in the Kenyan university libraries has played a significant role in making the resources more

accessible and satisfying to users especially those postgraduates students who indulge in independent research.

Conversely, the satisfaction rates drop drastically with respect to audio-visual resources (Mean = 2.95, SD = 1.28) where most of the respondents indicated their dissatisfaction. The standard deviation is somewhat large, which means that the perceptions are diverse, yet the prevailing disagreement can imply that people are not satisfied with the availability of CDs, DVDs, and audiobooks in general. This weakness impacts adversely on user satisfaction as they are denied a variety of learning formats. Muthoni (2010) had similar findings, where he stated that most university libraries are struggling to maintain audio-visual collections because of limited funding and changing user preferences to digital materials.

Another trend is seen in the multimedia resources (Mean = 2.37, SD = 1.04) where majority of the respondents disagreed that the library has sufficient interactive learning tools and recorded lectures. This is a result of low mean score which indicates poor user satisfaction with regards to modern learning technologies that enable various learning styles. The average possibility of responses indicates different expectations of users, but the dissatisfaction prevails in general. This is in line with Wanyama and Ochieng who highlight that multimedia materials are necessary in improving engagement particularly in blended learning as well as online learning.

In summary, the results indicate that, though MMUST Library meets user satisfaction in terms of traditional and electronic resource delivery, deficiencies in multimedia and audio-

visual resources lower user satisfaction in general. This asymmetry suggests that non-textual and interactive learning materials would also be enhanced to a considerable extent so that the library can be more aligned with the constantly changing academic requirements of the users.

Although MMUST Library has excelled in offering print and electronic resources, enhancements are necessary for its audio-visual and multimedia holdings. Enhancing these areas will improve the library's capacity to facilitate creative learning methodologies, as suggested in recent library development research.

In an interview, R1 was more categorical:

“we have print resources, e-resources, multimedia and audial visual resources.”

R1's categorical assertion highlights the diverse range of information resources available in their institution, reflecting a comprehensive approach to resource provision aimed at meeting the varied needs of users. By specifying print resources, e-resources, multimedia, and audio-visual materials, R1 emphasizes an inclusive and modern library collection strategy that caters to different learning preferences and technological advancements. This view suggests a deliberate effort to balance traditional and digital formats, recognizing the value of printed texts for in-depth reading, e-resources for remote access and up-to-date information, and multimedia and audio-visual content for interactive and engaging learning experiences. Such a diversified resource base underscores the institution's commitment to enhancing accessibility and supporting a wide range of academic activities.

4.5 Institutional Policy on Management of Library Resources

The study sought to establish the status of institutional policy framework on management of MMUST Library resources. Table 4.11 contains a summary of the findings.

Table 4. 8: Institutional Policy on Management of library Resources

Statement	1 F (%)	2 F (%)	3 F (%)	4 F (%)	5 F (%)	N	Mean (M)	SD
The institution has a well-documented library policy that guides resource management.	0 (0%)	0 (0%)	0 (0%)	10 (53%)	9 (47%)	19	4.47	0.51
The library policies are regularly reviewed to align with emerging trends and needs.	0 (0%)	0 (0%)	0 (0%)	14 (74%)	5 (26%)	19	4.26	0.45
Stakeholders are involved in the revision of library policies.	6 (32%)	9 (47%)	0 (0%)	4 (21%)	0 (0%)	19	2.58	0.90
The institution provides clear guidelines for developing and updating policies.	3 (16%)	12 (63%)	4 (21%)	0 (0%)	0 (0%)	19	2.05	0.59
There is a formal mechanism to evaluate and update library policies periodically.	3 (16%)	7 (37%)	0 (0%)	5 (26%)	4 (21%)	19	2.79	1.23
The library has a clearly defined acquisition policy for new resources.	0 (0%)	0 (0%)	0 (0%)	8 (42%)	11 (58%)	19	4.58	0.51
The institution ensures adequate budgetary allocation for library acquisitions.	4 (21%)	10 (53%)	0 (0%)	5 (26%)	0 (0%)	19	2.32	0.90
There are well-structured guidelines for selecting print and digital resources.	0 (0%)	0 (0%)	0 (0%)	14 (74%)	5 (26%)	19	4.26	0.45
The institution's acquisition policy considers user needs and academic program requirements.	7 (37%)	7 (37%)	0 (0%)	5 (26%)	0 (0%)	19	2.53	1.12
The library has a clearly defined policy on weeding outdated or unused materials.	5 (26%)	14 (74%)	0 (0%)	0 (0%)	0 (0%)	19	1.74	0.44
Weeding guidelines are consistently followed to maintain a relevant collection.	7 (37%)	12 (63%)	0 (0%)	0 (0%)	0 (0%)	19	1.63	0.50
Librarians and faculty collaborate in making weeding decisions.	11 (58%)	4 (21%)	0 (0%)	4 (21%)	0 (0%)	19	2.11	1.20
The library has clear guidelines on digitization for long-term preservation.	13 (68%)	6 (32%)	0 (0%)	0 (0%)	0 (0%)	19	1.32	0.48
Library staff are adequately trained in preservation and conservation strategies.	12 (63%)	7 (37%)	0 (0%)	0 (0%)	0 (0%)	19	1.37	0.50
The institution has policies ensuring fair and equitable access to resources.	0 (0%)	0 (0%)	0 (0%)	8 (42%)	11 (58%)	19	4.58	0.51

Key: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5), M = Mean, SD – Standard Deviation

The results in Table 4.8 on institutional policy and management of library resources set forth indicate that the library has developed good policy frameworks in certain areas such as acquisition and access while there are significant gaps in the implementation of the acquired policies, involvement of stakeholders, weeding mechanisms, preservation, and policy review mechanisms.

Respondents were in agreement that the Library Policy of the institution is well documented and acts as a guide in Library resource management (M = 4.47, SD = 0.51). The high mean scores and low standard deviation scores reflect a high level of agreement for the respondents that formal policy documents were in place and gave direction to library operations. Likewise, it was found that library policies were regularly reviewed to make them fit the needs and trends (M = 4.26, SD = 0.45), indicating a consensus that policies are monitored to meet the needs and trends of information. The results are in line with Aina (2021) who stated that policies are crucial in ensuring effective collection management and strategic library development, and they must be documented and reviewed regularly.

Although there were policy documents, stakeholder involvement in the revision of the policy did not seem to be extensive. The results indicated that stakeholders were not involved in revising library policies (M = 2.58, SD = 0.90). Standard deviation is higher, suggesting that there is some variation in the opinions of respondents about the level of stakeholder engagement. Similarly, the respondents did not agree that the institution has clear guidelines

to develop and update policies ($M = 2.05$, $SD = 0.59$), indicating that the policy governance structure is weak. The results are in line with Noh's (2022) observations that insufficient stakeholders involvement can lead to policies that are not able to sufficiently cater for the needs of the users and institutional priorities.

The findings also indicated conflicting views about policy assessment and review processes. The overall response to the question "Is there a formal process for evaluating and revising library policies on a regular basis" was that this is not the case ($M = 2.79$, $SD = 1.23$). The standard deviation is relatively large, reflecting the fact that there is significant variation in responses, which may indicate that there is some variation in responses relating to the awareness of or implementation of evaluation procedures across staff. This finding aligns with the study conducted by Ifijeh and Yusuf (2023) who reported that there is a limited effectiveness of policy in academic library due to the lack of systematic policy assessment framework in many academic libraries in developing countries.

Respondents were in strong agreement that the library had a clearly defined acquisition policy for new resources ($M = 4.58$, $SD = 0.51$) regarding acquisition policies. There was also high level of consensus about the availability of well structured guidelines for selecting print and digital resources ($M = 4.26$, $SD = 0.45$). The low standard deviations suggest a high consistency in answers. These results indicate that there was clear policy and procedures in place to drive acquisition process. The same results were found by Johnson (2023) who stated that acquisition policies that are clearly written provide transparency, consistency, and accountability in collection development activities.

However, this was not so with regard to budgetary allocation for library acquisition ($M = 2.32$, $SD = 0.90$) with respondents disagreeing. They also did not agree that the acquisition policies adequately took into account user needs and academic programme requirements ($M = 2.53$, $SD = 1.12$). Relative higher standard deviations indicate different experiences in relation to funding of the products and user-centred acquisitions. The results are consistent with the findings of Kumar and Singh (2022) that financial constraints and lack of user participation are still very serious problems in effective collection development in academic libraries.

The areas with the lowest scores were weeding and preservation management. The library does not have a clearly defined policy on weeding outdated or unused materials ($M = 1.74$, $SD = 0.44$) and weeding guidelines are not consistently followed ($M = 1.63$, $SD = 0.50$). Additionally, respondents indicated that there was not enough interaction among librarians and faculty regarding weeding decisions ($M = 2.11$, $SD = 1.20$). The results of this study align with Gregory's findings (2021) that many academic libraries are still not implementing systematic weeding despite its critical role in ensuring current and relevant collections.

Likewise, the respondents strongly disagreed with having definite guidelines on digitization for long-term preservation ($M = 1.32$, $SD = 0.48$) and that staff were well-trained in preservation and conservation strategies ($M = 1.37$, $SD = 0.50$). The low average scores and low standard deviations show that there was a general consensus that policies and competencies for preservation were lacking. The results align with Erima and Mosweu (2023) who noted that many academic libraries in Africa suffer from digital preservation challenges attributed to lack of policies, infrastructure, and staff skills.

On the other hand, the respondents strongly agreed that the institution had policies to ensure fairness and equity in access to library resources ($M = 4.58$, $SD = 0.51$). The high mean and low dispersion values suggest a common view of access and inclusiveness being well covered in institutional policies. The discovery corroborates the claims of the International Federation of Library Associations and Institutions that stressed the importance of equitable access to library services as a key principle of delivering services to libraries.

Overall, the results indicated that while the institution had good policies in place for resource acquisition and access to resources, there were deficiencies in stakeholder engagement, evaluation mechanisms, funding support, weeding, digitization guidelines, and preservation training. The implications of the results suggest that improvement in the implementation of the policy frameworks and the development of participative policy frameworks would improve the effectiveness of the management of library resources and consequently user satisfaction.

4.6 User Satisfaction with management of Library resources

The study sought to establish the user satisfaction with management of library resources by post graduate students in MMUST library. Post graduate students responded to statements on a scale of Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) strongly agree (5). Results are summarised in Table 4.9

Table 4. 9: User Satisfaction with management of Library resources

Statement	1	2	3	4	5	N	Mean	SD
	F (%)	F (%)	F (%)	F (%)	F (%)			
The library offers sufficient study spaces conducive to resource utilization.	0 (0%)	12 (14%)	12 (14%)	22 (26%)	40 (47%)	86	4.19	1.01
The library's physical and digital resources are easily accessible.	12 (14%)	16 (19%)	0 (0%)	33 (38%)	25 (29%)	86	3.49	1.38
The library provides a diverse range of materials relevant to my academic and research needs.	12 (14%)	17 (20%)	2 (2%)	37 (43%)	18 (21%)	86	3.37	1.26
The library regularly updates its collection to reflect current trends in my field of study.	11 (13%)	29 (34%)	0 (0%)	26 (30%)	20 (23%)	86	3.12	1.28
There are sufficient copies of key textbooks and reference materials.	20 (23%)	31 (36%)	0 (0%)	22 (26%)	13 (15%)	86	2.74	1.30
The library's journal subscriptions and electronic resources meet my research requirements.	13 (15%)	11 (13%)	0 (0%)	31 (36%)	31 (36%)	86	3.62	1.35
The library accommodates user recommendations for new acquisitions.	10 (12%)	23 (27%)	0 (0%)	33 (38%)	20 (23%)	86	3.34	1.22
The availability of computers and internet access in the library meets my needs.	37 (43%)	23 (27%)	0 (0%)	14 (16%)	12 (14%)	86	2.31	1.33
The institutional repository is well-managed and provides valuable academic content.	9 (10%)	24 (28%)	0 (0%)	31 (36%)	22 (26%)	86	3.36	1.24
The library responds effectively to user inquiries and feedback.	21 (24%)	28 (33%)	0 (0%)	19 (22%)	18 (21%)	86	3.04	1.36
The library offers useful training sessions on information literacy and resource utilization.	18 (21%)	21 (24%)	5 (6%)	18 (21%)	24 (28%)	86	3.11	1.40

Key: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) strongly agree (5), M – Mean, SD – Standard Deviation

The study sought to evaluate user satisfaction with collection management at MMUST Library. Results of the user satisfaction on the management of the library resources show

different level of satisfaction in different aspects of the service delivery of the library. The mean scores of the library services and resources ranged from 2.31 to 4.19 certainly indicating that users were generally satisfied with some of the services and resources offered by the library, however, there were concerns about the resource adequacy, technological infrastructure and responsiveness to user needs.

The statement "the library has adequate study areas that are conducive to the use of its resources" received the highest mean rating ($M = 4.19$, $SD = 1.01$), signifying high level of users' satisfaction and relatively high degree of agreement among the respondents. The small range of standard deviations indicates that the respondents' perceptions were consistent. This discovery indicates that it is the library's effort to create a conducive environment to learning and research activity that has been successful. This finding aligns with the findings of the studies conducted by Aithal et al., 2023 which suggested that provision of suitable study spaces plays an important role in achieving good user experiences and higher usage of the library in HEIs.

The users were also relatively satisfied with the library's journal subscriptions and electronic resources to meet their research needs ($M = 3.62$, $SD = 1.35$). Likewise, the accessibility of physical and digital resources were rated positively ($M = 3.49$, $SD = 1.38$). The results indicate that the library has come a long way in delivering information resources that are required to facilitate academic pursuits. The relatively large standard deviations, however, suggest differences in experiences of users, which may be because of different needs in academic subjects. The results of this study corroborate the findings of Thanuskodi (2022)

which found that the availability of electronic resources has a positive effect on the satisfaction of users and research productivity in academic libraries.

The library's capacity to offer a variety of materials to support academic and research learning was moderately positively rated ($M = 3.37$, $SD = 1.26$). In a similar fashion, the institutional repository was considered reasonably well managed and useful for academic content ($M = 3.36$, $SD = 1.24$); and the institutional repository's ability to accommodate user recommendations for new acquisitions ($M = 3.34$, $SD = 1.22$). Moderate levels of satisfaction with collection development practices and resource management were evident from these findings. The findings align with those of Dadzie (2021) who found that when users are engaged in the collection development process, and institutional repositories are well-managed by them, the perceptions of library relevance and usefulness are improved.

The frequency of updates to collections to reflect current trends in users' fields of study had a moderate rating ($M = 3.12$, $SD = 1.28$). Likewise, the satisfaction level for information literacy training programs was fair ($M = 3.11$, $SD = 1.40$). These findings suggest that while the users are aware of the library's initiatives for updating collections and conducting training, there is a need for enhancement of the resources to keep them up to date, and training programs to meet the new information requirements. The results corroborated with the findings of Julien (2023) that the continuous updating of collections and regular information literacy programmes are important factors in determining user satisfaction in academic libraries.

The mean score for the responsiveness to user enquiries and feedback obtained was 3.04 ($SD = 1.36$) corresponding to moderate satisfaction. This indicates that there is a need to

enhance communication links between the library and the users. It is important that response mechanism is effective in enhancing the quality of service and library management in a user-oriented manner. Oakleaf (2022) also reported a similar finding, stating that the promptness of addressing users' concerns has a huge impact on perceptions of the effectiveness of the library.

Less satisfaction was noted with adequate supply of important textbooks and reference materials ($M = 2.74$, $SD = 1.30$). The discovery suggests that users often encounter difficulties in accessing key academic resources, potentially impacting their learning and research processes. This agrees with the study conducted by Alemna (2021) which revealed that one of the most prevalent problems faced by user satisfaction in the university libraries in developing countries is 'poor copies of core textbooks'.

Computers and Internet access in the library was the lowest rated aspect ($M = 2.31$, $SD = 1.33$). The mean score is low, suggesting low satisfaction with the use of ICTs and low performance of the ICT infrastructure. Access to and use of information is often extremely restricted by the lack of reliable Internet connection and/or computers. This result aligns with the findings of previous studies conducted by Issa (2023) and Baro (2022) which revealed that poor ICT facilities are still a significant challenge to achieving user satisfaction and better library services in many African universities.

The overall results indicate that users had a positive attitude towards study spaces, access to electronic resources and institutional repositories management. But, the lack of satisfaction with the infrastructure of ICT, key textbooks, and responsiveness to user feedback points to areas to be improved. The findings highlight the need for ongoing investment in library

collections, digital infrastructure, and service strategies focused on users to improve library resource management satisfaction.

A respondent R1 in an interview was noted saying;

“It is not possible to fully satisfy all our users needs, however with the emerging technologies we have moved closer to doing that, we rely so much on online mechanisms that include remote access to resources, electronic books and journals which complement the traditional book resources, we allow users to make follow-ups using emails, short messages and even the live chat systems that we have installed on the Opac. We use that to largely respond to our users as well collect feedback.”

Respondent R1 acknowledges the inherent challenge in fully meeting all users' needs within the library setting, but expresses optimism due to advancements in technology that have significantly enhanced service delivery. The respondent highlights the integration of digital tools such as remote access systems, electronic books and journals, which serve to complement traditional print resources. This blended approach not only broadens access but also aligns with the evolving preferences of modern users. Furthermore, the library has adopted various communication channels—including email, SMS, and live chat integrated into the OPAC system—to facilitate user interaction, enable follow-ups, and collect valuable feedback. This interpretation reflects a proactive and adaptive strategy aimed at improving user satisfaction through the effective use of emerging technologies.

R1 was noted;

“users are now able to even give suggestions on the kind of materials they wish availed. Through the Opac, they have room to indicate the books they feel they are not in the collection yet are key for use. Unlike before when we all relied on the faculty to suggest titles to be acquired.”

The view expressed in R1 highlights a significant shift in the approach to library resource acquisition, emphasizing increased user participation and empowerment. It indicates that

users now have a more active role in suggesting materials they deem necessary for their academic or informational needs, particularly through the Online Public Access Catalogue (OPAC). This represents a move away from the traditional model where faculty members were the primary decision-makers in recommending titles for acquisition. The change suggests a more user-centered system that values direct input from the library users themselves, potentially leading to a more relevant and responsive collection that better supports the diverse needs of its community.

4.6 Challenges facing MMUST in Managing a Balanced Library Collection

The study sought to establish the challenges facing MMUST library in managing a balanced library information collection. Library staff responded to statements on a scale of Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5). Table 4.10 contains a summary of the findings.

Table 4. 10: Challenges facing MMUST in managing a balanced library information collection

Statement	1 (%)	F	2 (%)	F	3 (%)	F	4 (%)	F	5 (%)	F	N	Mean	Std. Dev
The library receives adequate funding to support acquisition of new information resources.	11 (58%)		8 (42%)		0		0		0		19	1.42	0.51
Budgetary limitations hinder timely purchase of relevant academic materials.	0		0		0		7 (37%)		12 (63%)		19	4.63	0.49
Lack of funding affects subscription to essential academic databases and journals.	0		0		0		11 (58%)		8 (42%)		19	4.42	0.51
The library collection is regularly updated to meet needs of users.	3 (16%)		5 (26%)		0		11 (58%)		0		19	3.00	1.00
Outdated books and journals negatively impact academic research.	0		0		0		7 (37%)		12 (63%)		19	4.63	0.49
The library lacks recent editions of core textbooks.	8 (42%)		8 (42%)		0		3 (16%)		0		19	1.74	0.73
Availability of up-to-date e-books and digital resources compensates for outdated print materials.	2 (11%)		1 (5%)		0		8 (42%)		8 (42%)		19	4.11	1.05
The library policy includes provisions for persons with disabilities.	8 (42%)		7 (36%)		0		4 (21%)		0		19	1.79	0.85
Institutional guidelines regulate loaning and circulation of materials efficiently.	0		0		0		14 (74%)		5 (26%)		19	4.26	0.44
Users are adequately informed about policies on resource utilization.	5 (26%)		7 (37%)		0		4 (21%)		3 (16%)		19	2.68	1.27
Digital resources are effectively managed through access and licensing policies.	3 (16%)		2 (11%)		0		5 (26%)		9 (47%)		19	3.95	1.32

Key: of Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) Strongly Agree (5), M –

Mean, SD – Standard Deviation

The results of Table 4.10 reveal the evident connection between the practices of collection management and the user satisfaction at MMUST Library. The study focused on the respondents' perceptions on Challenges facing MMUST Library in managing a balanced library information collection. The results suggest that funding is still a big challenge in the collection management. The respondents were highly agreeable that budget constraints have a negative impact on the timely procurement of relevant academic materials ($M = 4.63$, $SD = 0.49$) and inadequate funding for subscription to essential academic databases and journals ($M = 4.42$, $SD = 0.51$). The low standard deviations suggest a high level of consensus among respondents. These results suggest that financial problems still exist, which prevent the library from obtaining up-to-date and relevant information resources. The findings are consistent with those of Motuma, Alemneh and Jimma (2024) who inferred that lack of funding is one of the major challenges faced in acquisition and sustainability of electronic resources in African university libraries. In the same vein, Aina and Mutshewa (2023) found that budget limitations adversely impact scholarly resources access and collection development in Higher Education Institutions.

The score mean ($M = 1.42$, $SD = 0.51$) for the statement that the library receives adequate funding to support the acquisition of new information resources was low, reflecting strong disagreement among the respondents. This is a repeating result, and confirms the concern that there is insufficient funding allocated for library services. This finding is consistent with findings by Ocholla and Mostert (2023) that many academic libraries in developing countries are facing constrained budgets and escalating information needs and subscription expenses.

As for the collection currency, respondents strongly agreed that the old books and journals affect academic research ($M = 4.63$, $SD = 0.49$). They were equally divided, though, on whether they agree or disagree that library collection is regularly updated to address user needs ($M = 3.00$, $SD = 1.00$), indicating varied opinions regarding user needs and renewal efforts. Interestingly, the respondents disagreed that the library is not stocked with recent editions of core textbooks ($M = 1.74$, $SD = 0.73$) so it can be said that the core textbooks are relatively recent. The results indicate that some subjects may be more likely to be affected by collection obsolescence than others. Furthermore, maintaining existing collections is a challenge in academic libraries, according to Bentil and Liew (2024) who mentioned that the proliferation of information and the shortage of acquisition budgets pose a challenge in maintaining current collections.

The availability of up-to-date e-books and digital resources was perceived to compensate for outdated print materials ($M = 4.11$, $SD = 1.05$). The discovery is an additional example of why digital collections are increasingly being used as a complement to print collections to guarantee access to up-to-date information. The higher the standard deviation, the more variation there is in the experiences of the respondents with digital resources. The discovery is significant, especially for the work of Erima and Mosweu (2023) that digital resources and institutional repositories are increasingly becoming important alternatives in the face of the aging or inadequate print collections.

Regarding issues in policy, respondents disagreed that there is adequate provision for persons with disabilities in the library policy ($M = 1.79$, $SD = 0.85$). This indicates a lack of inclusive service delivery for libraries and a need for policies to meet accessibility needs. The discovery coincided with Cherotich, Cheptoo, and Obare (2024) who noted that limited

accessibility of information to persons with special needs in many university libraries in Africa is due to poor accessibility policies and assistive technologies.

The findings further revealed strong agreement that institutional guidelines regulate the loaning and circulation of materials efficiently ($M = 4.26$, $SD = 0.44$), indicating effective implementation of circulation policies. Respondents were not confident that users are adequately informed about policies on resource utilization ($M = 2.68$, $SD = 1.27$), suggesting that there may be varying opinions among them by the high SD. This may mean disparate messages on policies and user awareness programs. Subaveerapandiyan and Ugwulebo (2024) also discussed the need for proper communication and educating the users about the library policies to improve compliance and make the best use of the library resources.

Lastly, respondents agreed that digital resources are well managed by access and licensing policies ($M = 3.95$, $SD = 1.32$). While the mean score in the positive direction reflects positive perceptions, the standard deviation is relatively high, suggesting there were varying experiences among respondents. This discovery lends credence to the argument by Bentil and Liew (2024), that digital resource management policies should be effective in order to have sustainable access to electronic information resources, copyright protection and optimal usage.

The results overall show that the library's circulation and digital resources management policies are effective but that funding problems are significant issues for the development of collections, the currency of resources and for subscribing to scholarly databases. The

findings also point to improvements in policy communication as well as the need to make people with disabilities more visible in policies in libraries.

On the challenges; R1 interviewee was quoted saying;

“staffing has remained our main challenge, we are thin on the ground which has led to some sections not working to the optimum, more so, staff strain especially on the shift which has caused most of them to accumulate so many off and leave days.”

The view expressed by respondent R1 highlights staffing shortages as a significant operational challenge within the organization. The phrase “thin on the ground” indicates a critical lack of personnel, which has resulted in underperformance in certain sections. This shortage has not only hindered optimal functioning but has also led to increased workload for the existing staff, particularly during shifts. The situation has caused employees to experience strain and fatigue, as they are compelled to overextend themselves to meet operational demands. Consequently, many staff members have accumulated excessive off days and leave, pointing to a systemic issue in workforce planning and management that, if unaddressed, could impact productivity and staff morale.

Another respondent R1 indicated that;

“We have constantly faced budgetary issues despite the University increasing the library’s allocation. It has been difficult to consistently acquire books and other key library resources. In fact, in some cases we have had to postpone key acquisition of resources which has hurt service delivery and attracted complains from the faculty and students.”

The view expressed by respondent R1 highlights the persistent budgetary challenges faced by the university library, even with increased financial allocations. Despite the institution's efforts to support the library, the funds remain insufficient to meet the growing demands for

books and essential resources. This financial strain has led to delays in acquiring key materials, which in turn has negatively impacted service delivery. The postponement of resource acquisition has not only hindered the library's ability to effectively support teaching and learning but has also elicited complaints from both faculty and students, reflecting broader dissatisfaction and the critical need for sustainable funding solutions.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter five presents a review of the critical results based on the study objectives. The conclusion and the implications that have emanated from this study are also discussed. The chapter also provides recommendations of the study and an outline on the future areas of research.

5.2 Summary of the Findings

The findings of the study are summarized based on the following objectives; to assess the nature of information resources at MMUST Library, to assess collection management policy framework on user satisfaction at MMUST library, to establish user satisfaction with information resources at MMUST library, establish challenges facing MMUST Library in collection management.

5.2.1. Nature of Information Resources in collection management at MMUST Library.

The results show that postgraduate students at MMUST overall have a positive perception of information resources in libraries, especially when it comes to core academic materials, which have a significant impact on user satisfaction. Books recorded a perfect mean score ($M = 5.00$, $SD = 0.00$), while reference materials ($M = 4.57$, $SD = 0.50$), newspapers ($M = 4.62$, $SD = 0.68$), and academic journals ($M = 4.43$, $SD = 0.86$) also received high ratings. These findings indicate that users are very pleased with the supply and the accessibility of the necessary scholarly resources that have direct impacts on the teaching, learning and research processes. Nevertheless, the magazines received lower scores ($M = 3.10$, $SD = 1.20$), expressing a lower level of satisfaction and differences in user preferences. The same

evidence may be seen with regard to the interviews, as respondent R1 mentions that the library has a diversified resource base as they have a blended information collection of books, reference works, databases, magazines and newspapers.

When it comes to the information formats, it can be seen that there is a definite correlation between the type of resources and the level of user satisfaction. Print ($M = 5.00$, $SD = 0.00$) and electronic resources ($M = 4.84$, $SD = 0.36$) reported high levels of satisfaction, meaning that users are satisfied with both traditional and digital academic materials, which increase their research experience and overall satisfaction with the library. Nevertheless, multimedia ($M = 2.37$, $SD = 1.04$) and audio-visual resources ($M = 2.95$, $SD = 1.28$) showed dissatisfaction, which indicated the lack of modern, interactive learning tools that might restrict the interaction of some users. This observation is also supported by interview responses, with R1 affirming the accessibility of print, e-resources, multimedia, and audio-visual resources but quantitative outcomes indicate disparity in effectiveness in these spheres. In general, although the core academic and electronic resources are rated in their satisfaction, the constraints of multimedia and special materials limit overall user satisfaction, so additional investment in the multiple formats is required to satisfy the requirements of postgraduate academic users.

5.2.2. Collection Management Policy on user Satisfaction.

The results reveal that the MMUST Library has the overall good institutional policy framework of managing collections that are favourable to user satisfaction. Majority of the respondents affirmed that the library has a clear acquisition policy and selection criteria, frequent review of policy and equitable access to resources, which indicates that the

organization has a well-organized system that facilitates the delivery of resources. This perception was also supported by the interview with R1, which emphasized that the library is managed by a detailed policy framework that is used in acquisitions, access, and management of various information resources.

There are however a number of limitations that compromise the user satisfaction especially when it comes to policy implementation. Respondents identified low levels of stakeholder engagement with policy development, insufficient financial resources to fund acquisitions, and weeding and digitization as well as staff training shortcomings. The gaps influence the capacity of the library to have current and relevant collections and be able to respond effectively to the needs of the users. In general, the policy framework has a solid structure, but the difficulties in its implementation make it less efficient in terms of increasing user satisfaction and making collection development sustainable.

5.2.3 User Satisfaction with management of Library resources

The research determined that user satisfaction on collection management at MMUST Library is largely moderate with both positive and negative aspects affecting the overall experience. The quantitative results indicate that the availability of study space, journal subscription, access to electronic resources, and access to the institutional repository are relatively satisfactory to users, all of which promote academic engagement and access to information. Nevertheless, the unsatisfactory conditions in major aspects are seen in the lack of textbooks, poor ICT infrastructure, lack of regular updating of collections and difficulty in accessing resources. Such gaps have adverse impacts on the satisfaction of the users as they deny them the opportunity to access the relevant and up-to-date scholarly resources in

time. These results have indicated that, although the library has been able to advance in terms of providing digital resources and organizing services, it continues to be unable to address the needs of various users, especially those in terms of physical collections and technological support systems.

These results are supported and expanded by the findings of the interviews, which demonstrate that the library is trying to increase user satisfaction by integrating technology into its operations and developing its collection participatively. Respondent R1 pointed out that though it cannot meet all the needs of the users, the integration of digital tools, including remote access systems, e-books, online journals, email communications, SMS notifications, and live chat using OPAC has contributed immensely to service delivery and responsiveness. Another change identified by the interview was the move towards user-centered collection development in which the users can make direct acquisition requests via the OPAC and away from the traditional faculty-dominated selection model. This participatory method is seen to enhance relevance and responsiveness of collections, thus increasing satisfaction. The incorporation of ICTs and the involvement of the users partially counterbalances the current resource constraints, indicating that the user satisfaction at MMUST Library is gradually influenced by the adequacy of the physical resources and the efficiency of online and interactive library services.

5.2.4 Challenges facing MMUST in Managing a Balanced Library Information Collection

The results reveal that user satisfaction is directly influenced by the collection management practices at the MMUST Library. In general, users were unsatisfied with the accessibility of

existing textbooks and print academic resources, which implied that the library is not meeting their academic requirements as well as they perceive it to be in reference to the latest resources. This disadvantage has an adverse impact on the level of user satisfaction, since postgraduate students are Nevertheless, the presence of digital resources to a certain degree increases the level of satisfaction as users reported that they contribute to offsetting the deficiencies of the old print collections. Simultaneously, the issues of accessibility (especially regarding users with disabilities) and the lack of awareness of library policies were also mentioned as contributors to a decrease in the effectiveness of using the available resources and overall satisfaction. Conversely, circulation and loan policies were considered in a positive way meaning that when the user accesses resources, the mechanisms that are put in place to borrow and use it are effective and add value to the experience of the user.

These findings are supported by the results of the interviews, which also indicate structural and operational issues that impact service delivery. A single respondent noted that the problem of staffing shortages has had a considerable impact on the efficiency of the staff which has resulted in overworked staff, piling up of leave days as well as a lack of optimal performance in certain sections of the library. This is not only a stressing factor to employees but also has an implication to quality of services which also impacts on user satisfaction. The other interviewee highlighted the continuous budget constraints with incremental allocations that have resulted in delays in acquiring necessary books and other resources thus impacting service delivery and causing frustration among students and faculty. All these findings indicate that though certain elements of library services, such as computerized access and circulation systems, induce user satisfaction, hidden issues,

including staffing, funding, resource accessibility, and inclusiveness, still haunt the overall efficiency of the collection management in MMUST Library.

5.3. Conclusions

The study concludes that MMUST Library has a highly qualified and experienced personnel where the majority of staff possess Bachelor's and Master's degrees and over 10% of the staff members have served beyond 10 years in the library. This means high levels of institutional stability and expertise gained to improve service delivery. There is also a high degree of engagement with the library by postgraduate students, with the majority of students visiting the library at least once a week, indicating a high level of demand for academic resources and library support services.

The present study finds a complex configuration of user experiences as regards the satisfaction on the use of resources. The print journals and magazines, books and institutional repositories are well respected, but there are distinct concerns about textbooks, theses and digital resources. The shortage of e-books, online journals, and lack of adequate database subscriptions, as well as a lack of adequate computers and internet access, are still affecting the use of print and online materials.

The results also indicate that while MMUST Library has improved its collection of both print and electronic resources, there are some deficiencies in the multimedia resources and also in the advanced digital support systems. The level of satisfaction with audiovisual

materials and newer technologies like AI-powered services and virtual assistants was low. Digital platforms, such as OPAC and the institutional repository, however, have met positive acceptance, showing a small progress in the offer of digital services despite the existing constraints.

Finally, the study points out policy and operational issues regarding resource management. Stakeholder participation in policy development is limited, which potentially compromises inclusivity and effectiveness of library policies, although there are policies and they are reviewed on a regular basis. These operational issues are the need for obsolete print materials, poor ICT facilities, low user involvement in collection development, and lack of user-oriented response. Despite these obstacles, the library is known for its efforts to provide equal service, and the increased use of electronic services is helping to close some of the gaps in service.

5.4 Recommendations of the study

The study makes the following recommendations based on the study findings;

- i. The study recommends several measures to improve MMUST Library services. Key among them is the need to expand access to digital resources by increasing subscriptions to academic databases like JSTOR and ScienceDirect, and improving the availability of textbooks and reference materials. Enhancing internet connectivity and increasing the number of computers are also necessary to facilitate better use of digital content. The library should also raise awareness and improve access to

institutional repositories and conduct regular user satisfaction assessments to address emerging issues. Additionally, the library is encouraged to invest in multimedia and audio-visual resources to support diverse learning styles, secure more funding through institutional and external partnerships, and enhance digital services by implementing virtual assistance tools such as AI chatbots. Lastly, introducing user engagement initiatives will ensure that resource acquisitions are aligned with changing academic and technological needs, thereby positioning MMUST Library as a responsive and modern learning hub.

- ii. The study recommends and emphasizes the need for MMUST Library to enhance stakeholder engagement in policy formulation and revision by involving librarians, faculty, and students to ensure inclusivity and responsiveness to user needs. The institution should establish clear guidelines for collection management and ensure transparency in policy implementation. To improve policy effectiveness, a structured and regular evaluation process should be adopted. Increased budgetary allocations are necessary to support the expansion and diversification of library collections. The library should also implement a well-defined weeding policy and encourage collaboration between librarians and faculty for the removal of obsolete materials. Additionally, MMUST Library should develop clear digitization policies and invest in staff training on preservation techniques to support the sustainability of both digital and physical resources. These measures will enhance the library's resource management and ensure its continued relevance and efficiency.
- iii. There is need for libraries to acquire updated print materials to complement digital resources, creating a well-rounded collection. Library policies should also be revised

to improve accessibility for individuals with impairments through assistive technologies and infrastructure upgrades. Additionally, awareness campaigns and user training should be introduced to promote understanding of library resource regulations. To ensure academic needs are met, consistent and transparent collection development strategies must be adopted. Lastly, adequate funding should be allocated to replace outdated books and journals. Implementing these measures will enhance resource adequacy, accessibility, and user satisfaction, thereby supporting academic and research excellence.

5.5 Suggestions for Further Research

The following areas are suggested for further research:

Longitudinal studies to assess user satisfaction over an extended period. This would provide insights into how satisfaction levels evolve over time and identify trends and patterns.

Comparative studies with other academic libraries in Kenya or internationally to benchmark MMUST Library's collection management practices.

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APPENDICES

APPENDIX 1: INTRODUCTION LETTER

I am a post graduate student at Kisii University, taking master's degree in Information Sciences (Library option). In order to complete this program, I am required to research and present a thesis on "Collection management for user satisfaction at MMUST Library, Kenya." To help collect relevant data, I have prepared the questionnaire below and am requesting you to kindly fill it independently. Be assured that the research conducted is strictly for academic purposes only and all the information provided will be treated with at most confidentiality.

In case of any queries about the study, contact me on: 0729649053

Yours Sincerely,

Peter Ngome Lucheli

APPENDIX 2: QUESTIONNAIRE FOR LIBRARY STAFF

Instructions

Tick against the appropriate option or view relevant to your situation or write short notes when required

Your responses will be treated as part of aggregate responses from all participating respondents

Respond to all questions fully and honestly.

PART A: BIO DATA (Indicate by ticking the options)

1. Indicate your status

.....
.....

2. What is your designation?

- 1) Library Assistant [] 2) Deputy University Librarian []
- 3) Senior Library Assistant [] 4) Assistant Librarian []
- 5) Library attendant [] 6) Senior Library Assistant []

3. How long have you been working in the university library?

(a) What is your qualification?

- (b) 1-4 years [] (b) 5-10years [] (c) 11- 15years [] (d) 16 and above []

.....
.....
.....

SECTION 1: Nature of Information Resources in collection management at MMUST Library.

Please indicate the extent to which you agree or disagree with the following statements regarding the availability of information resources in MMUST Library. Use the scale below:
1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The MMUST Library has a sufficient collection of reference books to meet academic and research needs.					
The MMUST Library has a sufficient collection of books to meet academic and research needs.					
The MMUST Library provides access to a wide range of newspapers for current affairs and research purposes.					
The library has an adequate number of academic journals to support studies and research work					
The MMUST Library offers a variety of magazines covering different fields of interest.					

Please indicate the extent to which you agree or disagree with the following statements regarding the different information formats at MMUST library. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
MMUST Library provides a sufficient collection of print media resources (e.g., books, newspapers, magazines, and journals) to support academic and research needs					
MMUST Library offers a well-organized e-resources collection (e.g., e-books, online journals, and databases) that is easily accessible to students and faculty.					
The library has an adequate number of audio-visual resources (e.g., CDs, DVDs, and audiobooks) to enhance learning and research.					
MMUST Library provides a variety of multimedia resources (e.g., interactive learning tools, digital presentations, and recorded lectures) to support diverse learning styles.					

Please indicate the extent to which you agree or disagree with the following statements regarding the availability and accessibility of emerging technologies implemented in MMUST Library. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)
The MMUST Library provides access to e-books and e-journals.					
Video conferencing tools (e.g., Zoom, Microsoft Teams) are available for academic discussions.					
WhatsApp is used for library communication and resource sharing.					
Email services are effectively used for library notifications and user support.					
Telephone support is available for library users seeking assistance.					

Please indicate the extent to which you agree or disagree with the following statements regarding the Availability and adoption of New Technological Trends in Information Management. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)
MMUST Library provides remote access to electronic resources such as e-books and e-journals.					
The Online Public Access Catalog (OPAC) is available and functional for searching library resources.					
The digital repository provides access to institutional publications, research papers, and theses.					
The library has virtual assistants (e.g., chatbots, AI-based help desks) for user support.					
The library's collection includes a variety of digital and print resources.					

SECTION 2: Collection Management Policy on user Satisfaction at MMUST Library

Please indicate the extent to which you agree or disagree with the following statements regarding Institutional Policy on Management of library Resources at MMUST Library. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	1	2	3	4	5
The institution has a well-documented library policy that guides resource management.					
The library policies are regularly reviewed to align with emerging trends and needs.					
Stakeholders (librarians, faculty, and students) are involved in the revision of library policies.					
The institution provides clear guidelines for developing and updating policies on collection management.					
There is a formal mechanism to evaluate and update library policies periodically.					
The library has a clearly defined acquisition policy for new resources.					
The institution ensures adequate budgetary allocation for library acquisitions.					
There are well-structured guidelines for selecting print and digital resources.					
The institution's acquisition policy considers user needs and academic program requirements.					
The library has a clearly defined policy on weeding outdated or unused materials					
Weeding guidelines are consistently followed to maintain a relevant collection.					
Librarians and faculty collaborate in making weeding decisions					
The library has clear guidelines on digitization for long-term					

preservation of materials.

Library staff are adequately trained in preservation and conservation strategies.

The institution has policies that ensure fair and equitable access to library resources.

SECTION 4: Challenges facing MMUST in managing a balanced library information collection

Please indicate the extent to which you agree or disagree with the following statements regarding challenges facing MMUST in managing a balanced library information collection. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	1	2	3	4	5
The library receives adequate funding to support the acquisition of new information resources.					
Budgetary limitations hinder the timely purchase of relevant academic materials.					
Lack of funding affects the subscription to essential academic databases and journals.					
The library collection is regularly updated to meet the needs of students and faculty.					
Outdated books and journals negatively impact academic research at the university.					
The library lacks recent editions of core textbooks required for different courses.					
The availability of up-to-date e-books and digital resources compensates for outdated print materials.					
The library policy includes provisions for persons with disabilities.					

Institutional guidelines regulate the loaning and circulation of materials efficiently.

Library users are adequately informed about policies related to resource utilization.

Digital resources are effectively managed through policies on access and licensing.

APPENDIX 3: QUESTIONNAIRE FOR POST GRADUATE STUDENTS

Instructions

Tick against the appropriate option or view relevant to your situation or write short notes when required

Your responses will be treated as part of aggregate responses from all participating respondents

Respond to all questions fully and honestly.

PART A: PERSONAL BIO DATA (Indicate by ticking the options)

1. What level of study are you? Masters () PhD () Post Graduate Diploma

SECTION 1: Nature of Information Resource in collection management at MMUST Library.

a) How often do you visit the library?

(i) Once per week [] (ii) per week [] (iii) Thrice per week [] (iv) Four and above []

Please indicate the extent to which you agree or disagree with the following statements regarding information resources in MMUST Library. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement on satisfaction	SD	D	N	A	SA
The availability of textbooks and reference books in the library meets my academic needs					
The quality and relevance of print journals and magazines in the library are satisfactory.					
The library has an adequate collection of research theses and dissertations.					
The library provides adequate access to e-books and online journals.					
I find the institutional repository useful for					

accessing scholarly content.

The library subscribes to a sufficient number of academic databases (e.g., JSTOR, ScienceDirect, Emerald).

The availability of computers and internet access in the library is sufficient.

SECTION 2: User Satisfaction with Information Resources at MMUST

Library.

Please indicate the extent to which you agree or disagree with the following statements regarding user satisfaction with Information Resources at MMUST Library. Use the scale below: 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 - Strongly Agree

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
The library offers sufficient study spaces conducive to resource utilization.					
The library's physical and digital resources are easily accessible.					
The library provides a diverse range of materials relevant to my academic and research needs.					
The library regularly updates its collection to reflect current trends in my field of study.					
There are sufficient copies of key textbooks and reference materials.					
The library's journal subscriptions and electronic resources meet my research requirements.					
The library accommodates user recommendations for new acquisitions.					
The availability of computers and internet access in the library meets my needs.					
The institutional repository is well-managed					

and provides valuable academic content.

The library responds effectively to user inquiries and feedback.

The library offers useful training sessions on information literacy and resource utilization.

APPENDIX 4: INTERVIEW SCHEDULE FOR DEPUTY UNIVERSITY LIBRARIAN

SECTION 1: Nature of Information Resources in collection management at MMUST Library.

- i) What are the different types of information resources stocked at MMUST library?
- ii) How are the different types of information resources stated above utilized by varied library users?
- iii) What is the general condition of the library information resources at MMUST?

SECTION 2: Institutional Policy on Management of Library Resources at MMUST Library.

- i) Mention any institutional policy framework at MMUST library?
- ii) How functional are the stated policy framework?
- iii) How current is the collection management policy?
- iv) Explain briefly how each policy works?

SECTION 3: User Satisfaction Level of Information Resources and Services at MMUST Library.

- i) In your opinion how satisfied are users with MMUST library collection?
- ii) What are mechanisms in place for feedback on user satisfaction?
- iii) How off-campus students are enabled to access information resources?
- iv) What is the feedback regarding information collection at MMUST?

SECTION 4: Challenges Facing MMUST in Managing a balanced Library Information Collection

- i) For the time you have served in the library, what challenges have you encountered in collection management?

- ii) Of the challenges which one specifically affects collection management at MMUST library?
- iii) What should be done to address the stated challenges?

APPENDIX 5: RESEARCH LICENSE

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This is to Certify that Mr.. Lucheli Ngome Peter of Kisii University, has been licensed to conduct research in Kakamega on the topic: COLLECTION MANAGEMENT FOR USER SATISFACTION AT MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY LIBRARY, KENYA. for the period ending : 25/July/2023.	
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APPENDIX 6: RESEARCH APPROVAL


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OFFICE OF THE REGISTRAR RESEARCH AND EXTENSION

REF: KSU/R&E/ 03/5/ 588 DATES: 21st July, 2022

The Head, Research Coordination,
National Council for Science, Technology and Innovation,
(NACOSTI) Utalii House, 8th Floor, Uhuru Highway,
P. O. Box 30623- 00100
NAIROBI - KENYA.

Dear Sir/Madam,

RE: LUCHELI PETER NGOME MIN11/20748/16

The above mentioned is a student of Kisii University currently pursuing a Masters Degree in Information Science. The topic of his research is, *"Collection management for user satisfaction at Masinde Muliro University of Science and Technology Library, Kenya"*

We are kindly requesting for assistance in acquiring research permit to enable him carry out the research.

Thank you.


for Prof. Anakalo Shitandi, PhD
Registrar, Research and Extension

Cc: DVC (ASA)
Registrar (ASA)
Director SPGS



APPENDIX 7: INTERVIEW CODING

R1 - Deputy University Librarian,

APPENDIX 8: PUBLICATION ABSTRACT

Vol. 6 (Iss. 2) 2025, pp. 674-689 African Journal of Empirical Research <https://ajemet.net> ISSN 2709-2607



Collection management for user satisfaction at Masinde Muliro University of Science and Technology library, Kenya

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ABSTRACT

Academic libraries support curriculum and research, with collection management encompassing functions like selecting, acquiring, storing, and maintaining collections cost-effectively. However, changing demands, budgets, and technology keep libraries on the move, potentially leading to user dissatisfaction. The purpose of the study was to establish the status of collection management on user satisfaction at Masinde Muliro University of Science and Technology Library, Kenya. The study was guided by expectancy-disconfirmation theory. The study adopted a descriptive design, and the target population was library managers, section heads, library staff, and postgraduate students. Census sampling was used to select the deputy university librarian (DUL), technical staff, circulation staff, and reference librarian, and then a simple random sampling method was applied to postgraduate students' strata. The sample size for the study was 105 respondents. Questionnaires were administered to the postgraduate students and library staff, while an interview schedule was used to collect data from the deputy university librarian. Qualitative data was analyzed thematically, while quantitative data was analyzed using descriptive statistics. The study found out that MMUST Library has a well-established collection of print and electronic resources but faces deficiencies in multimedia and audio-visual materials. A robust institutional policy was in place; however, there were deficiencies in some processes like weeding practices, essential for maintaining a relevant collection. The library suffers from inadequate budgetary allocations and funding that affect its optimum operations. The study concluded by underscoring the significance of a well-balanced and diversified collection enhancing user satisfaction. The study recommended an improvement in collection management for user satisfaction and enhancement of digital collections to serve diverse academic disciplines.

Keywords: Academic Library, Collection Management, MMUST Library, User Satisfaction

APPENDIX 9: PLAGIARISM REPORT

Page 1 of 210 - Cover Page

Submission ID: trn:oid::1:3597038278

School Of Postgraduate

Ngome Thesis Final 10th June 2026.docx

 COLLECTION MANAGEMENT FOR USER SATISFACTION AT MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY LIBRARY, KENYA.

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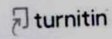
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