ANALYSIS OF STRATEGIES FOR ENHANCING USER ENGAGEMENT IN UNIVERSITY LIBRARIES IN MERU COUNTY, KENYA

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Kenya Methodist University

AUGUST, 2024

DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented for a degree or any other award in any other University

Signed: .. Date: ……03/08/2024……

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ISK-3-0250-2/2021

Recommendations

We confirm that the work reported in this thesis was carried out by the candidate under my/our supervision.

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DEDICATION

I dedicate this thesis to my family members, whose unwavering support and sacrifices have been instrumental and inspirational in my academic success.

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I am incredibly grateful for the unwavering support and guidance provided by several remarkable individuals, without whom this achievement would not have been possible. Firstly, I extend my deepest appreciation to my exceptional supervisors, Prof. Paul Gichohi, PhD, and Ms. Catherine M. Nzioka, whose invaluable mentorship and unwavering support have been instrumental in shaping the outcome of my research. Their wisdom, encouragement, and expertise have been an endless source of inspiration throughout the entirety of my thesis.

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ABSTRACT

The interactions among students, faculty, and staff with library resources, services, and facilities define user engagement in university libraries. To encourage engagement, these libraries invest in digital collections, empower users through information literacy workshops, gather feedback via surveys to customize their services, and build a strong social media presence to foster a sense of community and connection among library users. Unfortunately, some university libraries are facing low user engagement. This study aimed to analyze strategies for enhancing user engagement in university libraries in Meru County, with a particular emphasis on suggesting practical best practices. The objectives of this study were to evaluate how digital resource accessibility enhances user engagement, assess user survey mechanisms for improving engagement, examine the use of information literacy programs to boost engagement, and analyze social media strategies to increase engagement. The study was guided by information interaction theory, flow theory, and the social media integration framework. It adopted a descriptive survey research design. The target population consisted of 13,000 undergraduate students, 665 postgraduate students, and 25 library staff from Meru University and Kenya Methodist University. A sample of 434 undergraduate students, 267 postgraduate students, and 15 library staff participated in the study. The researcher first stratified the undergraduate and postgraduate students and then applied a simple random sampling technique to each group to ensure representation across different academic disciplines and years of study. Purposive sampling was used to select library staff participants. The researcher gathered data from undergraduate and postgraduate students through questionnaires and conducted interviews with library staff. The instruments were pretested to ensure their reliability, which was crucial for producing trustworthy and replicable research findings. A reliability test using Cronbach's alpha coefficient was conducted on the research instruments to ensure reliability. The qualitative data were thematically analyzed and presented in thematic categories and narratives, while the quantitative data were analyzed using SPSS. Descriptive statistics such as mean and standard deviation were computed, and the results were presented using tables and figures. The research adhered to ethical guidelines, including observing all research policies and ensuring the safety and confidentiality of the respondents. The study results revealed a significant level of engagement between students and library staff, with students frequently seeking assistance for research and resource location. Extensive use of online databases and electronic resources was noted; however, many students experienced difficulties in effectively using e-journals and institutional repositories. Additionally, user surveys were conducted sporadically with a poor response rate, and poor attendance at information literacy sessions was observed, with sessions not equipping students with efficient search strategies. Furthermore, most students felt library staff were unresponsive on social media, and the staff were unaware of effective methods to measure social media engagement. The study concludes that maintaining knowledgeable library staff, improving the quality and accessibility of digital resources, reassessing event planning and promotion strategies, enhancing social media engagement, and better promoting information literacy sessions are essential for enhancing user engagement. It recommended that university libraries in Meru County conduct regular user surveys, incorporate advanced search techniques in information literacy programs, establish clear social media engagement protocols, and integrate information literacy sessions into the academic curriculum.

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ABBREVIATIONS AND ACRONYMS

ACRL	–	Association of College and Research Libraries
ALA	–	American Library Association
ARL	–	Association of Research Libraries
CHELSA	–	Committee of Higher Education Librarians of South Africa
CUE	–	Commission for University Education (Kenya)
ICT	–	Information Communication Technology
COVID -19	–	Coronavirus Disease 2019
Ebook	–	Electronic Book
Ejournal	–	Electronic Journal
LibQUAL	–	Library Quality Assurance Standards

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

University libraries play a significant role in supporting academic endeavors and fostering an environment of learning and research excellence within higher education institutions. In today's digital age, the success of these libraries is intricately linked to their ability to engage and meet the evolving needs of their diverse user communities effectively (Schlak, 2022). User engagement, a multifaceted concept encompassing everything from physical library usage to digital interactions, represents a cornerstone of library services (O'Brien, 2016). To thrive in an environment characterized by rapid technological advancements and changing user expectations, university libraries must continuously assess and enhance their strategies for user engagement.

This research comprehensively explored the efficacy of strategies employed by university libraries to engage their users. Through a focused study within the educational landscape of Meru County, Kenya, this research aimed to evaluate the effectiveness of these strategies and identify and recommend actionable best practices that could serve as a blueprint for enhancing user engagement in university libraries.

The selected universities in Meru County provided an ideal context for this research, given their commitment to academic excellence and their diverse student and faculty populations. By assessing the strategies currently in place and drawing upon user feedback and satisfaction data, the study sought to contribute valuable insights to the field of library science. The findings did not only inform the practices of university libraries within Meru

County but also gave broader implications for university libraries worldwide seeking to optimize their user engagement efforts.

1.1.1 User Engagement in University Library Activities/

User engagement can be described as the intricate tapestry of interactions, experiences, and emotional connections that users weave with a product, service, or platform embodying the depth of involvement, the richness of interaction, and the resonance of experiences that users encounter as they navigate, consume, and contribute within the given ecosystem (Lalmas et al., 2022). This concept extends beyond mere usage statistics or surface-level interactions, delving into the nuanced landscape of user behaviors, sentiments, and perceptions, ultimately shaping the dynamic relationship between users and the entity they engage with (Ruelle, 2020).

User engagement in university libraries is characterized by a range of interactions between students, faculty, and library resources, services, and staff with a key aspect of user engagement in university libraries being active utilization and access to digital resources databases to support academic pursuits (Boff & Cardwell, 2020). Furthermore, user engagement in university libraries extends to participation in library programs and events these may include workshops on research skills, citation management, information literacy, and academic writing, as well as events such as author talks, panel discussions, and exhibitions (Ali & Abubakar, 2023; Yaseen & Bano, 2022). Students and faculty engage with librarians for research consultations, reference assistance, and guidance on navigating complex information landscapes, fostering personalized support and contribute to developing information literacy skills essential for academic success (Bukar et al., 2022; Rafiq et al., 2021). Moreover, with students and staff accessing library resources remotely

through the library's website, online catalog, and digital repositories, in addition to virtual reference services through social media platforms, further enhances user engagement by providing convenient access to library resources and support services anytime, anywhere (Harlow & Hill, 2020; Kiilu et al., 2020; Kimanga & Namande, 2021). By actively seeking students and faculty opinions, preferences and concerns, user surveys allow university libraries to understand their needs and tailor their services accordingly, leading to higher user satisfaction and engagement (Chow, 2019; Lalmas et al., 2022)

Universities recognize that fostering user engagement is central to creating vibrant academic communities (Ayman et al., 2023). University libraries are service-oriented organizations that primarily deal with promoting material goods such as books, journals, and research publications to the academic community of a higher learning institution (Appleton, 2020). As library users utilize the resources and services offered by the library, it is crucial to engage with them as customers to ensure effective delivery of library services (Twum et al., 2022).

In developed countries, universities recognize that fostering user engagement is central to creating vibrant academic communities (Ayman et al., 2023). In 2019, Samford University Library began reconstructing its outreach strategies to prioritize on user engagement as a result students and faculty engagement strategy was developed with the guidance of the ACRL Framework (Cooper & Day, 2023). According to Bangani, (2023), university libraries in the United Kingdom have a strategy document outlining their commitment to actively consult and engage with library users over a specific period, emphasizing on the library’s dedication to understanding what users want from their library services and outlines

various approaches it will use to engage and involve users using methods tailored to their specific needs.

In England, Liverpool John Moores University Library have an established customer engagement commitment with its customers that provides them with information on the services and facilities available to them, commitment to engage with them and involve them in any development activity in the library and ensure that their feedback and suggestions influence service improvements and developments (Liverpool John Moores University, 2024). Within the African context, post-COVID-19 pandemic, university libraries in South-West Nigeria have witnessed a notable increase in user engagement, which is expected to continue in the post-pandemic era, as universities continue to prioritize digital learning and expand their online resources (Olubukola, 2022). In Ghana the shift towards online learning and remote access to academic resources has led to a surge in demand for digital library services, as a result, university libraries have had to adapt and enhance their digital infrastructure and have been actively promoting the use of online resources and encouraging students and faculty to engage more with library services (Mensah, 2022).

The CUE regulations and standards for university libraries in Kenya ensures that university libraries engage users by providing information resources necessary to their different course programs, and provide information literacy skills to aid users in the continuous use of library resources and services (Commission for University Education, 2014). At Saint Paul's University Limuru, more users are visiting the library to be able to access information resources from physical books and library databases, and also find out new book acquisitions done in the library (Mugo & Mathu, 2021). According to Gathoni and Van der Walt, (2019), staff at Aga Khan University libraries in Kenya and Uganda prioritize user engagement by

getting user feedback to improve their services and ensure library users engage more with library resources.

1.1.2 University Library Strategies for User Engagement

Strategies encompass the various plans, methods, and approaches utilized to accomplish distinct objectives or goals in a particular setting such as business or education, which can differ significantly in their breadth, intricacy, and implementation (Johnson et al., 2020). According to Corrall (2003), strategy is the art of generating value by offering intellectual frameworks, conceptual models, and governing concepts that enable a manager to detect opportunities for providing value to customers.

The modern university library has transcended its traditional role as a repository of books and knowledge to become a dynamic hub of academic and research activities (Xiao, 2020). In developed countries, university libraries have spearheaded a transformative journey to become not only repositories but also interactive learning centers through comprehensive user surveys and feedback mechanisms, institutions like UC Berkeley university library modify resources and services to meet the ever-evolving needs of their diverse user base (Rahayu et al., 2020).

Moreover, the Massachusetts Institute of Technology (MIT) Library has achieved remarkable user engagement through innovative digital resource provisioning. MIT's vast digital repository, coupled with its open-access initiatives, facilitates global accessibility to academic materials, thus fostering international collaboration and engagement (Shen, 2023).

In 2019, the Samford University Library initiated a comprehensive overhaul of its outreach initiatives, prioritizing a renewed emphasis on user engagement by introducing the Power

Hour information literacy series that comprises a blend of social and academic gatherings meticulously designed to augment student and faculty involvement with the academic library (Cooper & Day, 2023). In India, College Libraries of Assam libraries the online chat services, specifically the Ask-a-Librarian feature on the library website, are utilized with regularity to promptly address users' inquiries, moreover, a variety of online platforms, including Zoom, email, and social media platforms like WhatsApp, are employed to actively engage both staff and students in fulfilling their information needs (Das & Borgohain, 2021). Plymouth University Library values all feedback, this includes complaints, suggestions, compliments, and concerns used to improve user engagement and inform decisions on how to develop and improve services (Saadati et al., 2021).

A report by CHELSA (2021) notes that the act of obtaining feedback from library users has proven to be a valuable tool for enhancing engagement with the academic community as the feedback enables the university library to identify areas that require improvement and make necessary adjustments. In addition, CHELSA (2021) report points out university library in South Africa offer information literacy sessions that focuses on orientation of library resources and services, use of online library catalogue and use of electronic resources databases, all aimed at enhancing students' knowledge and utilization of library resources and services. The report further highlights the adoption of new trends in informal and non-traditional communication channels for engaging with students, and faculty that comprise of WhatsApp for Business, Facebook Messenger, Microsoft Teams, Zoom, student WhatsApp groups, as well as instant chat, chatbots, and library apps. Rabatseta et al. (2021) revealed that some university libraries in South Africa frequently use online chat services such as Ask-a-Librarian to answer users' questions. In addition, they also use various online

platforms like Zoom, email, and social media platforms such as WhatsApp to provide information services to students and staff. Their study found that these libraries use multiple online platforms to effectively engage with their users and meet their information needs.

During the initial wave of the COVID-19 pandemic, academic libraries in Ghana had to adopt new strategies for engaging with library users to cope with the challenges posed by the pandemic, they increased their use of online databases, implemented social media interventions, provided virtual training, and introduced an "ask a librarian" service that allowed library patrons to request assistance online from the library website (Dadzie et al., 2022). In Nigeria, Nwosu and Asuzu (2021) noted that academic librarians adopted new strategies post COVID19 pandemic to engage users by fully incorporating virtual library services, with Facebook, WhatsApp, Zoom and Institution library websites being used as mediums of information dissemination, however, some of the social media pages and websites created weren't fully used. They noted that Facebook, Twitter, Instagram, and YouTube were not widely utilized for information dissemination and other library services, and most of them had insufficient engagement.

Zooming in on the local context in Kenyan Universities, most academic libraries are taking proactive steps to build stronger connections with their users with social media proving to be an effective platform for university libraries in Kenya to foster engagement and interaction between librarians and patrons. (Abok & Kwanya, 2016; Wakahia & Owoche, 2024) have observed that universities such as Jomo Kenyatta University of Agriculture and Technology (JKUAT) and Kenyatta University (KU) are identifying and fulfilling the information needs of their users by collecting feedback through online surveys and library social media platforms. They further note that university libraries are increasingly adopting

digital collections and electronic resources to cater to the growing demand for remote access to information, thus enabling users to utilize library resources beyond the physical library. However, the library department of JKUAT needs to improve not only on the quantity of e-books but also on their relevance (Kipkosgei, 2020).

Musangi (2019) in her assessment on sampled Universities in Kenya observed that university libraries had made significant progress in engaging users through the provision of electronic resources and virtual reference services. Some universities offered an email address on their library's website for users to send their inquiries, while others provided an online form called "ask-a-librarian" for users to fill in case of an inquiry. She also noted that six university libraries had adopted trendy online chat platforms such as JLive, Libchat or Livezilla, in addition to social media tools such as Facebook, Twitter, YouTube, LinkedIn and Instagram to engage library users. Furthermore, she observed an emerging trend in use of online surveys, generated as QR codes, which were printed and posted on all service points and reading tables for users to scan and respond to the nature of services offered. However, she noted that some libraries were found to be inactive on various social media tools, and their Facebook pages had the latest posts as old as two years ago and did not have optimal interactivity compared to the number of followers.

Gathoni and Van der Walt (2019) point out that Aga Khan university in Kenya, library staff focus on user engagement by providing library services within the designated time frame, and providing access to digital resources. However, they noted that some services at the library fell short of users' expectations as users fell to understand easily how to use library online catalogue thus unable to locate information materials in the library. In a study conducted at St. Paul's University in Kenya, Mugo and Mathu (2021) noted that the

university library had implemented a range of strategies to engage their users. These included the use of library orientations, provision of online databases and social media platforms. Additionally, the library conducted user surveys to ensure that they are providing services that meet their user's needs. This study affirms that university libraries in Kenya are actively working to engage their users through various means.

The Meru University of Science and Technology and Kenya Methodist University located in Meru County have implemented several measures have been taken to ensure that the library users have an improved engagement with the library. Some of these measures include; adopting of Web Apps such as My LOFT, providing anti-plagiarism software (such as Turn it in and Drill bit), eBooks, e-journals, and social media platforms like WhatsApp (Gitonga, 2023). Meru University of Science and Technology and KeMU library initiatives such as faculty-student research collaborations, library-hosted seminars, and access to digital resources aligned with local curriculum requirements are essential components of user engagement strategies. However, despite the academic community being informed of library resources and services available in the university libraries through library orientations and information literacy sessions still low engagement with library resources being evidenced. The management of Meru County university libraries endeavor to seek the opinion of users as to how the library services could further be improved through online survey in their university library websites however responses given are low. Although the university libraries utilize various social media platforms, some of them are inactive. In addition, despite the university's efforts to provide digital resources, there are low levels of engagement with some of these resources. The study aimed to analyze social media

strategies, user surveys, information literacy programs, and digital resource accessibility to enhance user engagement in Meru County University Libraries.

1.2 Problem Statement

User engagement in university libraries is paramount as it directly correlates with the library's role in supporting academic success, fostering research excellence, and cultivating a dynamic learning environment (Appleton, 2020). University libraries are making significant efforts to engage their users, as reported by (Boff & Cardwell, 2020). To achieve this, university libraries are investing in comprehensive digital collections, e-books, online databases, and virtual reference services. These tools provide users with convenient access to resources anytime, anywhere, which fosters engagement beyond physical library spaces (Schlak, 2017). Libraries also offer workshops on information literacy to empower users to conduct thorough research and improve their understanding of the use of library resources (Harland et al., 2019). Additionally, actively seeking user feedback through surveys and focus groups helps university libraries tailor their services accordingly. Maintaining a strong presence on social media platforms is also important in fostering a sense of community and connection among library users (Winn et al., 2017). Unfortunately, the level of user engagement in university libraries is wanting as evidenced by users complains that digital resources databases are challenging to navigate, have complicated access procedures, and lack user-friendly interfaces making it cumbersome for them to use them (DeVille & Sughrue, 2023). Further, there are irregular posting and long periods of inactivity on university libraries' social media platforms (Harlow & Hill, 2020; Wakahia & Owoche, 2024). Also, the content and format of information literacy programs do not align with the user's interests and requirements (Saliba, 2021). Additionally, library surveys are too

complex and lengthy and unresponsive to users' previous feedback discouraging library users from participating (Chow, 2019). Also, information literacy programs are suffering from low turnout and disinterest due to a lack of diversity in the topics covered, as noted by (Amegashie & Ankamah, 2020). Poorly executed information literacy training sessions have caused library users to miss out on opportunities to improve their digital resource navigation skills thus low user engagement with e-resources (Schlak, 2018). Libraries that fail to effectively communicate their activities and offerings through social media have had decreased awareness and utilization of library services, as a result user become unaware of valuable resources, new acquisitions, or upcoming events (Shafawi & Hassan, 2018). A loss of connection with library users is evident in academic libraries as they are not able understand their needs and preferences due to flawed user surveys mechanisms, as highlighted by Drivas et al., (2022); Shafawi and Hassan (2018); Winn et al. (2017). Although some researchers such as Ateka et al. (2022); Gikunju et al. (2023); Musangi, (2019) have assessed different strategies Kenya University libraries have adopted to enhance user experience little was investigated on how to enhance user engagement. It was interesting to investigate how effective user engagement strategies were, and what implications they had for the library and its users. Therefore, further research was needed to explore user survey mechanisms used, digital resources accessibility, social media and information literacy strategies used for enhancing user engagement in Meru County university libraries.

1.3 Purpose of the Study

To analyze the strategies for enhancing user engagement in university libraries in Meru County, with a specific focus on recommending actionable best practices.

1.4 Research Objectives

i. To evaluate digital resource accessibility as a strategy to enhance user engagement in Meru County University Libraries

ii. To assess user survey mechanisms to enhance user engagement on Meru County University Libraries

iii. To examine the use of information literacy programs as strategy to enhance user engagement on Meru County University Libraries.

iv. To analyze social media strategies to enhance user engagement in Meru County University Libraries.

1.5 Research Questions

i. How does digital resource accessibility enhance user engagement in Meru County University Libraries?

ii. What are the most effective survey mechanisms to enhance user engagement at Meru County University Libraries?

iii. How does the use of information literacy programs enhance user engagement in Meru County University Libraries?

iv. What social media strategies enhance user engagement in Meru County University Libraries?

1.6 Justifications of the study

The study was justified for several reasons. Firstly, university libraries play a crucial role in supporting academic success and fostering a conducive learning environment for students, faculty, and researchers. Understanding and implementing effective strategies for user

engagement could contribute to improving access to resources, enhancing learning outcomes, and promoting a culture of scholarly inquiry within the faculty community.

Secondly, Meru County, located in Kenya, is home to two university libraries. The libraries serve diverse user groups with varying information needs and preferences. Investigating strategies for enhancing user engagement in university libraries specifically within Meru County provides contextually relevant insights that could directly benefit the local academic community.

Furthermore, user engagement in university libraries is a complex and multifaceted concept that requires an understanding of the unique challenges and opportunities within a particular geographic region. By focusing on Meru County, the study could take into account local educational infrastructure and institutional dynamics that might influence user engagement strategies and their effectiveness.

Additionally, researching user engagement in university libraries in Meru County adds to the current understanding of library and information science, particularly in the context of developing regions and underserved communities. Findings from the study inform best practices, policy recommendations, and interventions aimed at enhancing user engagement not only in Meru County but also in similar contexts nationally.

Moreover, the study aligned with broader national and international goals related to improving access to education, promoting information literacy, and advancing research and innovation.

1.7 Scope of the Study

This study primarily focused on university libraries, that is, Meru University of Science and Technology and Kenya Methodist University, within Meru County, Kenya, encompassing a detailed examination of the strategies employed for enhancing user engagement. It explored, digital resource accessibility, the effectiveness of information literacy programs, user survey mechanisms, and social media strategies. The study did not focus on analyzing specific architectural or design elements although the physical layout and amenities of university libraries can influence user engagement. Funding and resource allocation are important factors in implementing engagement strategies, this study did not delve into the financial aspects or budgeting decisions of university libraries in Meru County. While interactions with library staff are crucial for user engagement, this study did not investigate specific training programs or professional development initiatives for library staff.

1.8 Significance of the study

This study held significant importance as it sought to provide practical insights into enhancing user engagement in university libraries, with implications for academic advancement in Meru County. Examining and refining strategies contributes to improving library services, equitable knowledge access, and informed decision-making.

The study would benefit several stakeholders, including university library administrators and staff, by gaining insights into effective strategies for enhancing engagement with library resources, programs, and services. Faculty members would benefit from the study by gaining an understanding of how they could leverage library resources and services to enhance student engagement and support academic success in their courses and research

endeavours. Students would benefit from increased opportunities for engagement, which would enhance their academic development and success.

1.9 Limitations of the Study

While this research aimed to provide valuable insights, it encountered limitations in terms of the generalizability of findings beyond Meru County. The study's scope was restricted to a specific geographical region, and the effectiveness of user engagement strategies might vary across different university libraries. To mitigate this limitation, comparative analysis was conducted between universities within Meru County, allowing for a nuanced understanding of the local context. Additionally, insights gained from the study could be used as a reference point for future research in broader settings.

Furthermore, potential time constraints and data availability posed as challenges. To address these limitations, careful planning and systematic data collection procedures was employed. Multiple data sources, including surveys, interviews, and document analysis, were used to ensure a comprehensive data set. Additionally, any time-related constraints were considered in the research timeline, and efforts were made to maximize data collection within the available time frame while maintaining the research's integrity and validity.

1.10 Assumptions of the study

This study assumed that the university libraries in Meru County employed a variety of strategies to enhance user engagement, reflecting the global trend in library practices. It also assumed that user engagement positively impacted academic and research outcomes. Furthermore, it assumed that participants in this study would provide accurate and candid information regarding their library experiences.

1.11 Operational Definition of Terms

Digital Resources: Digital resources, including electronic databases, e-books, and online journals, are easily accessible through the library's online platform

Information Literacy Programs: These programs involve initiatives aimed at equipping information seekers with skills to effectively locate, evaluate, and use information resources for academic and research purposes.

Library Website Usability: This concept pertains to the ease of use and functionality of the library's website, affecting users' ability to access resources and services.

Meru County's Universities: This term encompassed all higher education institutions with its main campus located within Meru County, Kenya, including their associated libraries

Social media strategies: Referred to the planned approaches and actions taken by university libraries in Meru County to engage with their users through social media platforms

Strategies: In this study, strategies referred to the specific plans or approaches aimed at improving user engagement within university libraries

User Engagement: In this study, user engagement referred to the active participation and interaction of students and faculty with library services, resources, and activities.

University Libraries: Referred to academic libraries found within higher education institutions.

User surveys: Are structured methods of gathering feedback and insights from library users to understand their preferences, needs and satisfaction levels regarding library services.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides an analysis of existing literature related to the study topic. It includes findings from studies conducted by other researchers. The literature review is structured according to themes and the variables being studied, that is, user engagement in university libraries, strategies for enhancing user engagement in university libraries, accessibility of digital resources, information literacy programs, feedback mechanisms, and social media strategies for enhancing user engagement.

2.1 User Engagement in University Libraries

User engagement has been a critical topic of discussion in higher education since the mid-1930s and continues to be of utmost importance even today. User engagement refers to the level of involvement and interaction that users have with library services, resources, and staff encompassing a wide range of activities, from borrowing books and attending events to submitting feedback and participating in user surveys (Saadati et al., 2021). To effectively engage users, libraries need to create a welcoming and accessible environment, provide high-quality resources and services, and actively seek out feedback to improve the user experience (Appleton, 2020; Blake et al., 2020; Ruelle, 2020).

Appleton (2020) conducted a literature review on student engagement with academic libraries in United Kingdom. The study covered a review of literature on peer reviewed articles from worldwide on the topic under investigation. The researcher deployed a search strategy on several library and information science online databases and social science

databases focusing on journal articles that dealt with topic student engagement. The researcher revealed firstly, on how academic libraries engage with students in their learning through offering information literacy that enables students to gain skills and competences that equip them to utilize facilities, resources and services in an academic library. Secondly, he revealed specific collaborations between academic library and student council bodies where academic library takes note of voice of student representatives' queries, comments and critics towards improving academic library resources and services. Thirdly researcher found that academic library enhanced engagement by actively seeking feedback from students to ascertain satisfaction levels with services offered through getting feedback through semi structured interviews and bespoke questionnaires. The researcher established findings based on analysis of literature reviews from previous studies, the current research focused on conducting an in-depth study of the university libraries located in Meru County.

Similarly, Schlak (2018) conducted a thorough literature review on the engagement of students with academic libraries. He reviewed articles that focused on student engagement and academic libraries. The study identified several categories of student engagement with academic libraries. The first category is related to student learning and involves active participation in learning opportunities provided by the library, such as information literacy and library instruction. The second category includes citizenship and service-based learning, where students use library facilities, resources, and spaces for learning. The third category examines how students engage in learning through library technology and digital behaviors. Finally, the fourth category focuses on relational engagement, which can be used to gather feedback, evaluate performance, and potentially drive service improvements. These findings were based on analysis of literature reviews from previous studies, the current research

focused on conducting descriptive research to gain more insights on user engagement in university libraries located in Meru County

In African university libraries, researchers have reported some success and achievements in enhancing user engagement. Ihejirika et al. (2021) examined principles that sustained engagement with library users in Nigeria university library. The study adopted a qualitative research design. Purposively sampling technique was used to select two library staff from six selected university library. The study adopted a semi structured interview to collect data. The researcher found that user engagement at university libraries in Nigeria had transformed with the advent of social media platforms thus creating opportunities for users to engage with library resources, services, and staff in more dynamic ways. The researcher further noticed that users actively participate in the interaction with library content shared on social media platforms.

In Ghana, Dadzie et al. (2022) conducted a study to explore the strategies employed by Ghanaian university libraries in delivering services to their users during the COVID-19 pandemic lockdown. The study utilized a qualitative research design, and ten university libraries were purposively selected from a total of seventy-four. Library heads provided information on the coping mechanisms employed during the lockdown and partial reopening of their institutions. The findings of the study revealed that during the lockdown, libraries engaged their users by providing library training and orientation through webinars, with Zoom and Microsoft Teams being the most commonly used platforms. The study also found that social media platforms, such as Facebook and Twitter, were utilized to provide reference services and engage with students and staff to meet their information needs.

In Kenya, Musangi (2019) assessed redesigned services in university libraries in Kenya to cope with changing users' needs and information landscape. The study adopted a qualitative research approach. The target population was 21 public universities and 16 private universities in Kenya. Purposive sampling was utilized to choose six universities, with data being gathered through in-person interviews with librarians and library users provided data through focus group discussions. The researcher found that social media was the most utilized tool in increasing user engagement with new and existing users in sampled universities in Kenya. The findings showed Facebook was used in all six universities as a tool to inform users about new book acquisitions, and communication on upcoming library events, YouTube was used in five universities to offer tutorials on ways to utilize library resources and services and Instagram was used in two universities to showcase pictures of library facilities. The study was carried out among the top-ranked universities according to the webometrics ranking, and therefore this condition locked out other libraries that might have given key insights and deeper understandings to the research study.

Similarly, Kesenwa (2022) assessed community library engagement strategies in community libraries in Nairobi County focusing on the Kibra informal settlement community library. The study adopted a qualitative research methodology. Stratified random sampling technique was utilized to select nine (9) library staff and forty-five (45) library users. Questionnaire was used as an instrument to collect data. The study revealed that the Kibra community library used social media engagements, providing electronic books, use of customer delighting programs such as teen programs and family programs, with the researcher confirming that these worked effectively in engaging users of the library.

The study focused on community libraries however the current study focused on assessing strategies used in engaging library users in university libraries in Meru County.

2.2 Digital resource accessibility as a strategy for enhancing user engagement

Digital resources refer to information resources such as words, images, sounds and animations stored in the form of electronic data. By prioritizing digital resource accessibility, university libraries demonstrate their commitment to providing equitable access to information and resources for all users, thereby enhancing user engagement, satisfaction, and academic success. User engagement in university libraries is characterized by a range of interactions between students, faculty, and library resources, services, and staff with a key aspect of user engagement in university libraries being active utilization and access to digital resources databases to support academic pursuits (Boff & Cardwell, 2020).

Digital resource accessibility serves as a critical strategy to enhance user engagement in university libraries by removing barriers to access, promoting inclusivity, empowering users and facilitating remote access. Panda & Kaur (2023) examined how emerging technologies ensure that digital libraries in India present information in engaging and accessible formats. An online questionnaire was used to collect data. The survey targeted 200 library users out of these, 181 responded to the survey, achieving a 90.5% response rate. The study findings indicated that digital libraries that integrated artificial intelligence, natural language processing, virtual reality and machine language algorithms significantly improved digital library search functionality, as agreed upon by 80% of respondents and enhanced engagement with digital resources as agreed upon by 70% (127) respondents. Further, the findings indicated that by employing these algorithms, digital libraries were able to detect

library user preferences and offer them tailored content suggestions as indicated by 71% (182) respondents. This study focused on a general survey of all libraries in India without examining individual libraries in detail which may cause the researchers to miss important contextual factors that could influence the outcomes and interpretations of the study.

In South Africa, Ndou (2021) examined how access to information communication technologies enabled the use of electronic library resources at the University of Venda. A quantitative research approach with a survey research design was adopted. The study's target population was 375 academic staff and 1,262 post-graduate students. Stratified random sampling was used to select forty-five academic staff and 150 postgraduate students. A questionnaire was used to collect data. The study findings showed that 82% of respondents had access to the internet that enabled them access electronic library resources provided by the university with the majority (60%) of academic staff using cabled internet and (22%) using the university Wi-Fi, while (49%) of the postgraduate students used Wi-Fi to access the electronic resource materials. This study excluded undergraduate students and administrative staff which may result in a skewed representation of perceptions and experiences as they may have their unique insights and viewpoints valuable for the study.

Ubogu (2020) assessed how students utilized electronic resources provided in South Nigerian university libraries. The study adopted a descriptive survey method. The target population was undergraduate students in the department of education and postgraduate students in schools of the selected universities. A questionnaire was used to collect data. The study revealed that majority of respondents utilized library electronic resources for study and research purposes because they were accessible anywhere, up to-date, ease of use and their capability of storage. The current study allowed for a more in-depth analysis of issues

and understanding of specific insights, challenges and opportunities within a localized context of university libraries opposed to broader scope of all university libraries in an entire region. Similarly Fingillah and Aliero (2023) conducted a study to evaluate the status and use of subscribed electronic resources in Nigeria's, Kebbi University library. Stratified random sampling technique was utilized to select 135 students and 65 academic staff for the study. A questionnaire was used as the primary method for data collection, while observation and interview served to verify provided information. The findings revealed that the university library had over 500 computers in various sections of the library connected using fiber optic with a bandwidth of 160mb per second allowing users to actively interact with the library's digital resources. The study further revealed that there were a number of digital databases subscribed to with 8 out of 10 subscribed databases were active.

In Kenya, the Commission for University Education has provided a guideline on regulations and standards for university libraries that ensures all institutions subscribe to various digital resources to reach our many users beyond the physical library. Many university libraries have taken leverage of ease of access and retrieval of digital resources by subscribing to various database to ensure users engage more with the university libraries. Memusi and Khamadi (2022) in her investigation on how undergraduate students at Maasai Mara University utilized the digital library resources found out digital resources were provided by the library to cater for students different learning styles and preferences, these are, e-books, e-journals, electronic thesis. Online databases, online public catalogue and institutional repository were also provided to enable users find relevant information materials quickly thus reducing frustration and improving engagement. The study focused only on undergraduate students it would be important if researcher gathered data from other library

users such as faculty and post graduate students. Similarly, Merande (2021) in his study investigated on various electronic information resources used in selected Kenyan academic libraries among post graduate users. He found out that available resources included e-journals e-thesis, e-books, Digital repositories and OPAC. The study also established that over 72.2% of post graduate users frequently engaged with e-journals and open access resources. The study did not investigate on how digital resources accessibility enhanced user engagement among other users of the university library a key objective of conducting this study.

However, if digital resources in a university library are not being accessed frequently it could indicate a lack of user engagement. Kansal and Khan (2023) analyzed utilization of library resources in university libraries in India. The study surveyed six hundred postgraduate students and faculty. The study employed a both qualitative and quantitative research approach. The findings of the study revealed occasional difficulties accessing specific, high-demand digital resources, and lack of comprehensive training to equip students and faculty with the necessary skills to easily navigate the library databases. The study further revealed that users of digital resources databases lacked adequate skills in using more advanced searching techniques. This study aimed to analyze how the accessibility of digital resources enhanced engagement with post-graduate students in Meru County.

Similarly, Dada and Eghworo (2020) in their study on undergraduates' use of electronic information resources in Federal Universities in the South West, Nigeria found that student's engagement with digital resources faced challenges due to poor maintenance of digital resources, in addition to lack of training for students on the use of digital resources and an

erratic power supply. Additionally, Liasu and Bakrin (2022) investigated the impact of electronic resources had in reading culture among the students of Osun State University their findings indicated that majority of the respondents utilized electronic resources to secure success in examinations with e-journals and magazines, e-books, and e-newspapers constituted the most sought by the users, however, they found out poor internet connectivity, power outage, and insufficient workstations hindered full utilization of electronic resources thus there was low engagement with digital resources provided in Osun state university.

Similarly, Chilimo and Haikuti, (2022) investigated the utilization of electronic resources among undergraduate students at Namibia University of Science and Technology (NUST). The researchers employed a stratified random sampling method to choose students from each of the four undergraduate levels. The results indicated that subscribed electronic resources were not being fully utilized due to a lack of awareness. Furthermore, although most students felt comfortable using computers, they lacked the search skills required to effectively utilize electronic databases. The study also highlighted obstacles to accessing electronic resources, such as inadequate ICT infrastructure, internet connectivity issues, and outdated and slow computers. It's important to note that the study did not gather input from postgraduate students, who heavily rely on digital library resources, especially during their research and writing.

Also, Buruga et al. (2023) investigated the factors affecting the use of electronic information resources in academic libraries in Uganda. A total of 104 faculty staff and 254 final year students participated in the study. The results showed that consistent and reliable internet access was essential for using electronic resources, but this was lacking in most universities, leading to low utilization of digital resources. Additionally, the findings indicated that

limited computer literacy and access to computing devices hindered the use of digital resources. Furthermore, a lack of commitment from teaching staff to promote digital resource usage also contributed to the limitations in engaging with digital resources. Further, findings revealed that the electronic resources databases required multiple login passwords for access, this discouraged library users from accessing electronic information resources especially if a user had forgotten his or her password. The study did not consider gathering insights from postgraduate students, who rely heavily on digital library resources for their research writing.

Also, in Kenya Tenya et al. (2023) conducted a study to examine the digital resource platforms available for research and teaching in selected public universities. Four universities for their sen0iority, being the oldest to be established were purposively sampled. The study found that although digital resource platforms were available, they were not effectively accessed and utilized. The researchers indicated that low engagement of digital resources in public universities, was linked to limited access to digital resource platforms due to inadequate funding to subscribe to contents in various databases. Findings further showed that university libraries subscribed to only a few digital resource platforms, which in turn, resulted in limited content. In addition, the researchers found that information in digital resource platforms were less utilized because of poor user personalization features in the platforms which made them unappealing to users who thus engaged with them less frequently. This study had mixed evidence on the impact of digital resources on user engagement. A more comprehensive study helped clarify how to enhance user engagement through better accessibility of digital resources.

2.3 User Survey Mechanisms for Enhancing User Engagement in University Libraries

User surveys provide feedback which is a critical component that helps to ensure that the information retrieval systems, products and services in university libraries are functioning as intended and is meeting the needs of its users. Academic library databases are designed to provide users with quick and easy access to a wide range of scholarly digital resources, including electronic books, e-journals, and other materials, however, without effective feedback mechanisms in place, users may encounter difficulties in finding the information they need, which can negatively impact their academic and research outcomes (Zaugg, 2021). By users providing feedback library staff identify areas where improvements could be made.

In Canada and the United States, ARL LibQUAL+ Survey instrument is a comprehensive tool developed by ARL to assess and measure library service quality in academic libraries. It consists of multiple dimensions or scales, that is, dimension one being; effect of service; that measures users' affective responses to library services, such as how helpful or caring the library staff are perceived to be, dimension two being; information control; that assesses users' perception of their ability to control their own access to library resources and services, including ease of finding information, dimension three being; library as place that focuses on users' perceptions of the physical library space, including comfort, cleanliness, and availability of seating and workspace, dimension four being control that evaluates users' perception of their ability to interact effectively with library resources and services, such as ease of accessing online resources, dimension five being, student perceptions of service that specifically targets students' perceptions of library services and resources, dimension six being, library as space that assesses users' perceptions of the library's physical environment,

including its suitability for various activities, dimension seven being service affect that measures users' overall satisfaction with library services and their perceived value of those services and dimension eight being library as gateway that focuses on users' perceptions of the library's role in facilitating access to information and resources beyond the library itself (Killick & Wilson, 2019).

Within the Association of European Research Libraries, Carlsson and Torngren, (2020) performed a survey aimed at understanding how library user's feedback from surveys can be used as evidence for university libraries library development. The survey was done on 308 university libraries using Survey Monkey. They found out that a general user survey was done by 77% of the university libraries. Some used the LibQUAL platform, while others utilized a survey created by an external agency. The study provided key information on how user feedback is key to providing evidence to stakeholders to increase funds or other resources to university libraries but did not give insights on how user survey data can be used to meet the needs of library users

In Nigeria Soliudeen (2021) in his study aimed to investigate the importance of feedback mechanisms in academic libraries, specifically about the information retrieval systems. A systematic literature review was conducted using the Kitchenham and Charters methodology. The results indicated that user survey mechanisms adopted in academic libraries in Nigeria played a crucial role, particularly in offering effective and efficient information retrieval systems, services and products. The findings of this study further demonstrated that feedback mechanisms enabled librarians to understand user's preferences and improve on customization of systems to better meet the needs of faculty, students and researchers. These findings were based on analysis of literature reviews from previous

studies, while a literature review provides valuable insights from existing studies it may lack the richness of data and understanding that can be obtained through empirical research methods.

Also, Uwakwe (2018) examined how librarians in university libraries in the South Eastern zone of Nigeria made decisions by utilizing feedback information from library statistics. 103 libraries were used as sample size with 103 librarians handed 103 questionnaires which were completed with a 100% response rate obtained. The study showed that feedback information from suggestion boxes, user feedback forms and surveys was used for decision-making on which library resources to allocate more budget resources, and which services needed more improvement to meet the needs of library users. This was conducted as a general study with the researcher not examining individual cases in detail and thus may miss important factors that could influence the outcomes of interpretations of the study.

In Kenya, Kiriri (2019) evaluated the effectiveness of the LibQUAL scale in measuring the quality of library services in Kenya. This was done by surveying the perception of library users towards the services provided at a private university in Kenya, using the LibQUAL survey tool. Out of the 22 items on the LibQUAL+ tool, 16 were considered suitable for measuring library service quality in Kenya. The study concluded that the LibQUAL tool was a reliable and valid method for measuring service quality and could be effectively used in Kenya. In addition, Orayo et al. (2019) analyzed customer care practices at the University of Nairobi library and Jomo Kenyatta Memorial Library. Simple random sampling was used with 384 structured questionnaires issued to undergraduate and postgraduate students, and faculty and administrative staff. They found out that suggestion boxes were the most effective strategy for the library to gather more specific feedback from library users. Kiriri,

(2019) and Orayo et al. (2019) did not give information if adopted user survey mechanisms were suitable in ensuring that gathered data enabled the improvement of library services and facilities to enhance user engagement.

However, surveys must be regularly analyzed to determine their effectiveness in gathering pertinent information, which helps improve library resources and services, ultimately enhancing user engagement with the university library. In South West Nigeria. Egberongbe (2020) examined quality management structures adopted in Nigerian's 15 public universities and 9 private universities. The researcher used a mixed methods approach for the study conducted in two phases. The first phase was done using a structured questionnaire, and in the second phase face-to-face interviews and in-depth semi-structured interviews were used. The researcher noted the lack of consistency in obtaining feedback from library users, and infrequent feedback exercises resulted in minimal responses from occasional surveys. This study focuses on whether quality management structures exist in university libraries, the current study aimed to determine if surveys can help university libraries customize their resources and services to improve user engagement.

Similarly, Mugo and Mathu (2021) conducted an assessment on how St. Paul's University Limuru enhanced patrons' satisfaction with services rendered in the library. They found out that regular user surveys were not conducted the researcher pointed out the need to address this to meet the changing needs of their patrons and maintain greater user engagement and satisfaction levels with library services and resources. In addition, Gathoni and Van Der Walt (2019) investigated approaches used at Aga Khan University library to evaluate quality of services offered in the library. They found out that although the Aga Khan University library carried out occasional surveys the needs of users were still not meet and the service

gaps were not identified from surveys done. Gathoni and Van der Walt (2019) and Mugo & Mathu (2021) aimed to demonstrate how conducting user surveys could assist in meeting the changing needs of library patrons, the current study gathered insights on how university libraries can utilize user surveys for greater user engagement with library services and resources.

2.4 University Libraries Use of Information Literacy Programs to Enhance User Engagement

Information literacy programs play a key role in enhancing user engagement in university libraries by empowering students, faculty and staff on how to effectively navigate, evaluate and utilize information resources. Jones and Mastrorilli (2022) assessed the impact of the City University of New York college information literacy course on students' ability in searching and retrieving information resources for their assignments. A questionnaire was developed assesses learning outcomes from information literacy courses applied to research and academic activities. The survey was administered through an online tool, SurveyMonkey to survey students enrolled in fall 2019. The 212 students participated in the survey. The researcher found out that students who undertook the course were better in at navigating information databases, using search operators, that is, wild cards and truncations to retrieve intended results. A local study in Kenya is necessary to evaluate the impact of information literacy programs in university libraries on enhancing engagement.

In Nigeria, Alex-Nmecha and Ejitagha (2023) evaluated digital information literacy skills gained from information literacy sessions done at Universities in Nigeria. The study surveyed 279 final year undergraduate students pursuing information science. The survey used a questionnaire to collect data. The researchers revealed that the students were able to

gain skills and knowledge that enabled them to effectively locate, evaluate and use information resources enhancing user's engagement with library services and resources. Similarly, in Nigeria Agyeiku et al. (2022) examined the effect of library orientation on utilization of library resources by new users in University of Winneba. The researcher used a questionnaire to collect data and had a 100% response rate obtained. The researcher found out that the library orientation sessions allowed users gain skills to engage effectively in identifying, access, retrieving, and using library information resources. These studies relied on gathering data from undergraduate students leaving out key insights from postgraduate students.

Further, in South Africa, Moyo and Okemwa (2022) investigated students' perceptions of the information literacy program and its contribution to their academic success at two universities in the Eastern Cape. The researchers gathered data using both questionnaires and semi-structured interviews. They used non-proportional quota sampling to select a sample of 387 respondents from a combined student population of 14,393, and purposive sampling to include 10 information librarians in the survey. The study found that 57.7% of respondents felt that the information literacy sessions covered a variety of important aspects, such as orientation to the general library, using reference sources, understanding reading lists, improving information searching skills, utilizing the Online Public Access Catalogue (OPAC), evaluating information sources, understanding plagiarism and copyright, using databases for e-books and e-journals, and setting up login credentials to access e-resources off-campus. The findings from this study contributed to literature on how information literacy programs contribute to student's academic success, this current study played a key

role in contributing to how information literacy programs can be used to enhance user engagement with university libraries resources services and facilities.

In Kenya. Stellah et al. (2022) assessed the strategies utilized to inculcate information literacy skills to users at the Gaba Campus library of Catholic University of Eastern Africa. A cross-sectional survey research design was used. The researchers adopted purposive sampling to select library staff as respondents for the study and simple random sampling was used to select teaching staff, non-teaching staff and students as respondents for the study. The study findings revealed that university management employed various strategies to enhance information literacy among library users, including providing written materials while conducting one-on-one training, demonstrating usage of OPAC, inducting new library users, and organizing seminars and workshops for their academic or research experience. The study did not investigate whether the users gained skills to effectively engage more with university library resources and services.

Similarly, Were (2019) explored the effectiveness of information literacy programmes in Tangaza University College library. Simple random sampling technique was used to select 103 respondents from the total population of 140 and 8 library staff members. The researcher used questionnaire and interviews to collect data. The findings revealed information literacy was taught as curricular courses. The students were able to actively participate in information literacy course that enabled them to gain knowledge on how to access library databases, evaluate sources of information and how to reference and cite works. The study further revealed that self-assessments and focus groups discussions were used to evaluate if information literacy course had met its objectives. Also, the study revealed that continuous assessment tests (CATS) and term papers were used to assess

students' impact on information literacy course offered. The researcher did not give insights on whether the users gained skills to effectively engage more with university library resources and services, the current study assessed whether the programs enable users to successfully utilize library resources.

However, despite information literacy programs being done, users still exhibit low engagement with facilities, resources and services offered in university libraries. In Malaysia, Mohammed and Haliru (2019) explored University of Malaya's postgraduate students' perception on information literacy session usefulness in effectively in locating, accessing and using the information from library resources. The study surveyed 127 postgraduate students who attended the information literacy session. The online survey link was sent to students' emails and 115 responded to the survey. The findings indicated that 11.3% of the respondents did not find information literacy session useful in gaining skills in searching reading materials in the library and evaluating information sources. 9.5% indicated they still could not effectively conduct an online search. 17.4% indicated they did not know how to use search techniques such as Boolean and truncation while doing their search in library databases. This research was confined to only postgraduate students, the current study gathered information from also undergraduate students on usefulness of information literacy sessions to engage more with library resources.

Similarly, Saliba (2021) examined online disengagement of information literacy module on first year undergraduate students at American medical college in Qatar. The target population was 17 premedical students. Purposive sampling was used to select the respondents. The researcher found out that majority of the students preferred face-to-face sessions where they would learn practical skills on site with an instructor. The respondents

also suggested topics in the modules with emerging new areas of interest such as social media. They proposed replacing the module on "evaluating scholarly and popular resources" with the topic "evaluation of social media tools". Further, in Nigeria, Ogbomo (2023) examined why students disliked library resource orientation programs at Delta State University. The researcher utilized convenience sampling. The researcher used a questionnaire to collect data and had a 100% response rate obtained. The researcher revealed orientation on the use of library online catalogues was not done thus they could not retrieve information resources causing frustration and discouraging library users from utilizing library resources. These studies were confined to gathering data from only undergraduate students, the current study collected information from postgraduate students who attended information literacy sessions to assess the effectiveness of these sessions in encouraging their engagement with library resources and services.

In addition, Horsfall and Wokoma (2023) examined the perspectives of undergraduate students pursuing Library and Information Science at the University of Port Harcourt on the library user education program and the use of the university library. Simple random sampling was used to obtain a sample size of 131 respondents. The researchers utilized a questionnaire to collect data and had a 100% response rate obtained. The respondents revealed that online information literacy courses were poor as students lacked the necessary literacy skills to effectively navigate digital platforms. The researchers revealed that website crashes and slow loading times disrupted the learning experience with the online information literacy platform. The current study examined postgraduate perspectives on whether the information literacy program in Meru County University libraries enhanced their user engagement with library resources and services.

Also, in Kenya despite information literacy programs being done, library users exhibit low engagement with library resources and services. Nyarigoti (2020) assessed knowledge and skills gained by undergraduate students from information literacy sessions at the United States International University Africa (USIU-Africa). A survey questionnaire was used to collect data. The assessment showed that majority of the undergraduate students were not able to use the online databases and evaluate credibility of information sources. The study further revealed that utilization of the library and its resources by students was significantly low with majority of students heavily relying on search engines like Google as their primary sources of information despite being informed with credible electronic databases provided to them in the library. The study did not examine postgraduate perspectives on whether the information literacy program was effective in enhancing engagement with library resources and services as the current study examined.

Similarly, Gekara et al. (2021) conducted a study on the information literacy practices in secondary schools in Kenya that help students' access and use information from the school library. The study took place in 12 public secondary schools in Nakuru County. Simple random sampling was used to select the participating schools and school/teacher librarians. Data was collected through questionnaires and interviews. The researchers found that library orientation and library hours were considered to be the norm for promoting information literacy among the secondary students. However, the teaching of library skills that allow students to gain the ability to navigate and use the library effectively was neglected. The study further revealed that school librarians were not aware of the aspect that constituted an information-literate student. The study recommended that information literacy should be embedded in Kenyan secondary school curricula to inculcate information literacy skills in

secondary school students. This study was conducted in secondary schools. It was important for the current study to be conducted in Meru County University libraries to examine information literacy programs to ensure that acquired skills enhance engagement with university library resources and services.

2.5 Libraries' Use of Social Media to Enhance User Engagement

Using social media as a strategy to enhance user engagement in university libraries can be highly effective. University libraries nowadays use social media to promote their services, resources, and events, and to raise awareness about the library itself. Studies indicate that social media platforms such as Facebook, Instagram, Twitter, and LinkedIn are commonly used in creating engaging content as indicated by Lam et al. (2019) who analyzed the effectiveness of Facebook use to engage with users among seven university libraries in Hong Kong. The researchers opted for online observation and web content analysis of Facebook pages to evaluate its effectiveness. Their analysis showed that most university libraries in Hong Kong had adopted Facebook for marketing their library services and resources with information on general library operations, library digital resources, and library events frequently posted on their pages. They further found out that video-based type of posts attracted the most attention from library users.

Also, Wani and Ahmad (2024) in their study evaluated the effects of Twitter posts, on user engagement in select libraries in Asia and Africa. The study revealed that majority of tweets were related to library resources or collections, followed by announcements and events hosted by libraries. The study further revealed that tweets that included images could receive more retweets thus had more engagement compared to video clips that required more time and effort, making it less appealing to library users. These studies by Lam et al. (2019) and

Wani and Ahmad (2024) evaluated the effectiveness of Facebook and Twitter use for university libraries to engage with library resources and services, the current study evaluated in addition to these two platforms other social media platforms ability to ensure they enhance user engagement in university libraries.

In addition, Saleepalin (2020) studied the conditions and strategies of use of social media in public universities in Bangkok, Thailand with the main informants of the study being 14 library personnel. A semi-structured interview was used to collect data. The study found that conditions that caused the library staff to use social media were needed to relay information on library services or information resources in their libraries. They further found that Facebook was mainly used as a social media tool with frequent posts being done one to three times in a day during and after working hours. The study further revealed that Facebook page insight was used to monitor the performance of their Facebook pages. The researcher did not reveal the social media platforms' ability to enhance user engagement in university libraries.

In Nigeria, Olubukola (2022) investigated the use of social media engagement strategies among librarians in the Nigeria Library Association during the COVID-19 Pandemic. The study used online survey form as an instrument for data collection on fact that due to the country's COVID-19 lockdown respondents could only be reachable online. Online forms were distributed and thirty-eight forms were found usable. The study revealed during the COVID-19 pandemic librarians shared content on social media sites that is Facebook and Twitter multiple times in a day mainly through writing resulting in an increased engagement consisting of likes, shares, and views. This study contributes to literature on social media tools used by librarians and challenges they faced when using them, however do not provide

information on social media tools used by library users and how university libraries are adopting them to enhance engagement.

In South Africa, Rabatseta et al. (2021) investigated the extent of use of social media platforms by academic libraries. The research study used a combination of surveys and content analysis to gather insightful data. The participants were 78 workers from 26 different institutions, including librarians, social media administrators, and IT technicians. From the 48 participants who returned the questionnaires, the findings indicated that the majority of libraries in South Africa preferred using social media platforms, that is, Facebook, Twitter, and YouTube to promote library services, disseminate library news, and to get user feedback in order to enhance service delivery. The study did not reveal how using social media helped increase interaction and engagement with library users.

In Kenya, University libraries have taken leverage of social media platforms to foster greater interaction and engagement with their users. Gitonga et al. (2023) examined the technological response measures that university libraries in Meru County took to deal with emerging changes in providing information to its users. The study adopted a survey research design. The study used purposive sampling to select 13 librarians as respondents for the study. Focus group discussions and content analysis were used to collect data. The findings revealed that the universities in Meru County had adopted social media platforms, such as Facebook and WhatsApp to offer virtual reference service to students, staff and faculty who would use the platforms to ask questions, seek research assistance and receive quick responses from library staff promptly.

In addition, Musangi (2019) assessed how university libraries in Kenya had re-engineered their services to keep up with the changing infoscape. The study adopted a multiple case

study research design. Data was collected from three public and three private universities through a structured face-to-face interview with purposively sampled 30 library staff and focus group discussions with 25 students. The collection of secondary data involved reviewing the websites of various libraries. The study findings revealed that sampled six university libraries in Kenya had employed social media tools such as Facebook, Twitter, YouTube, LinkedIn and Instagram to share content on new resources, events, workshops and updates on library services. The research conducted by Gitonga et al. (2023) and Musangi (2019) adds to the existing literature on the social media tools utilized by university libraries. However, they do not cover the effectiveness of these platforms in encouraging user engagement with library facilities, resources, and services..

Also, Munyiva (2019) studied how social media affects the well-being and academic performance of public university students in Kenya. The study adopted a qualitative research design that involved a systematic literature review of information and findings presented in the twelve studies. The study revealed that public university students in Kenya were active social media users with Facebook, YouTube, WhatsApp, Instagram, Twitter and Snapchat being the most commonly used platforms. The study focused on the influence of social media on students' academics and wellbeing not on how it could be a tool to enhance their engagement with library resources and services. The current study will analyze how social media enhances user engagement with university libraries in Meru County.

However, not all university libraries in the world have taken the leverage of social media platforms to foster greater interaction and engagement with their resources and services. Chan et al. (2020) examined the effectiveness of University of Hong Kong Libraries in using Facebook and Instagram. The study used a mixed-methods approach of content analysis on

the Facebook and Instagram sites of university libraries and interviews with library users. The findings from the analysis of content on the platforms revealed that Facebook and Instagram had low engagement. Similarly, Duong (2023) explored the state of social media use in four Vietnamese university libraries. The researcher collected data through interviews with eight librarians and library administrators and also through content analysis of the libraries' Facebook and YouTube pages. The study revealed most students were inactive in the use of social media sites and had limited interactions with library social media sites. The study revealed that despite libraries having a social media presence none had a specific policy on social media use. The findings further revealed that the librarians had to enhance the quality of visual content on social media sites; Facebook and YouTube to attract engagement. The study further revealed that library users were passively engaged in posts on social media platforms this was evidenced by rare "likes" comments or shares. The studies conducted a comprehensive survey of four Vietnamese university libraries but failed to examine each library in detail. This approach restricts the researchers' ability to gain an in-depth understanding of particular cases or phenomena (Aurini et al., 2021)

Also, not all university libraries in Nigeria have taken leverage of social media platforms to foster greater interaction and engagement with their users. Akporhonor and Fasae (2020) investigated the use of social media in academic libraries in Ekiti and Ondo State. The study adopted a descriptive research design. A questionnaire was administered to forty librarians in the selected academic libraries was used to collect data and had a 70.18% response rate obtained. The study revealed that several academic libraries lacked a social media platform for engaging with users. This study focused on a general survey of all university libraries in Ekiti and Ondo State without examining individual libraries in detail which might have

caused the researchers to miss important phenomena or cases that could influence the outcomes and interpretations of the study

Further, in Kenya, university libraries lack the consistent utilization of social media platforms to enhance interaction and engagement with their users. A study by Amek (2021) evaluated the use of social media for promoting library services at the University of Nairobi (UON), Mahatma Gandhi Institute library. The research employed a descriptive case-study method and a mixed-method approach, with a study sample consisting of 7 library staff and 120 postgraduates. Purposeful, convenient, and snowballing sampling techniques were used. Interviews and questionnaires were used to collect data. The study findings revealed that the quality of library services delivered through Facebook and Twitter was poor and WhatsApp respondents revealed it was excellent. This research was confined to only postgraduate students, the current study compiled data from undergraduate students regarding the efficacy of social media tools utilized by university libraries to augment engagement with library resources and services.

2.6 Theoretical framework

This study provided a thorough analysis of theoretical frameworks relevant to understanding and enhancing user engagement in university libraries in Meru County, drawing on the social media integration framework, flow theory, and information interaction theory.

2.6.1 Flow Theory

The concept of flow theory, introduced by Csikszentmihalyi (1990) delves into the idea of optimal experiences that occur when individuals are completely absorbed in an activity. According to flow theory, individuals enter a state of peak engagement, referred to as "flow," when they are fully engrossed in an activity that aligns with their skills and the challenges they face. The theory suggests that flow experiences are characterized by intense focus, a sense of control, clear goals, immediate feedback, and a loss of self-consciousness

Flow theory relates to this study by examining strategies implemented by university libraries to create flow-inducing experiences for users, such as designing interactive interfaces, offering personalized recommendations, and providing real-time feedback on information searches that can enhance user engagement.

Flow Theory may overemphasize the individual's subjective experience and overlook external factors that influence engagement, such as social context. This reason leads to the emergence of the social media integration exchange framework.

2.6.2 Social Media Integration Framework

This study was guided by social media integration framework. Kaplan (2014) proposes the framework. The framework proposes the integration of social media into organizational process involving three key dimensions that is, the extent to which social media tools are integrated with existing information systems and technologies, functional integration of social media with organizational goals and objectives, and process integration of social media into organization workflows and business process to facilitate collaboration, inf0ormation sharing, and decision making.

The theory was used in this study to measure the level of integration between social media platforms and existing library systems, such as library catalogues, databases, and discovery tools, metrics related to the alignment of social media activities with library objectives of increasing user engagement, and finding out indicators that show social media practices are embedded into library workflows

Social media thrives on interaction, dialogue, and community building. This framework may not fully capture this dynamic thus study will consider building up on a social media integration framework with principles from the Information Interaction Theory (IIT) to emphasize bidirectional communication and engagement.

2.6.3 Information Interaction Theory:

Information interaction theory was proposed by Taylor, (1968). The theory lays the foundation to be able to understand how individuals interact with information systems to fulfill their information needs and solve problems. Key variables in the theory applicable to this study are information needs that is, individuals' perceptions of information deficiencies or gaps, also, information-seeking behavior that applies to actions taken by individuals to search for and acquire information and information use that process involved in applying acquired information to make a decision and solve problems.

The theory is chosen for this study because it provides a framework to understand how individuals interact with digital resources (catalogs, databases, websites). In addition, the theory will provide a framework to know how libraries can optimize search interfaces and organize content intuitively to ensure information retrieval is efficient and satisfying thus increasing user engagement.

The theory however does not fully consider semantics, meaning, or context. Real-world information often carries rich qualitative insights that go beyond statistical measures. To address this, the researcher will complement information interaction theory with qualitative methods, such as interviews or surveys, to capture the deeper meaning behind user engagement in libraries.

2.7 Summary of Research Gaps

The need for this study is underscored by several notable research gaps identified in existing literature. These gaps highlight the necessity for targeted research into effective strategies for improving user engagement in these libraries. One major gap is the lack of understanding of how information literacy programs impact overall user engagement. While these programs are known to improve specific skills their broader effect on engaging users with library resources remains unexplored. The role of social media in enhancing library user engagement is another area lacking thorough investigation. While some studies have looked at the effectiveness of certain social media platforms, there is little research on how various other platforms and social media use by library staff influence user engagement.

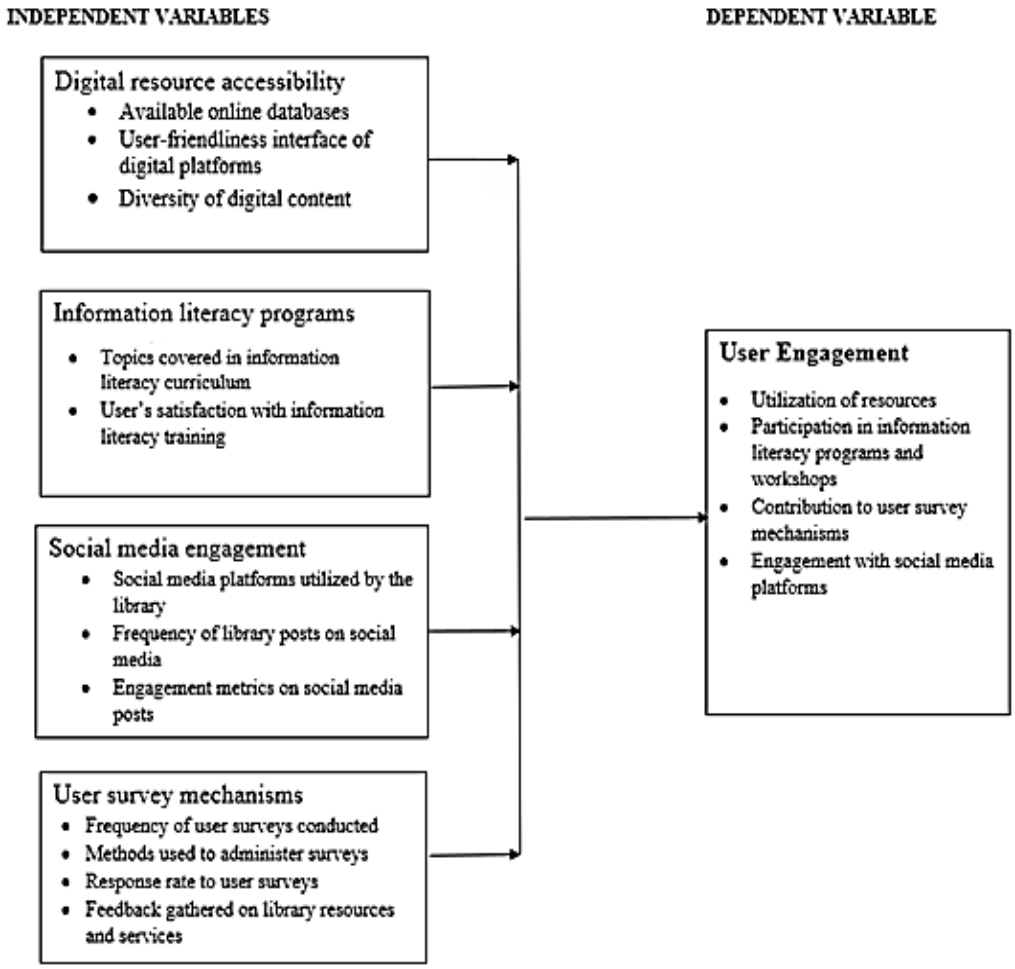
Similarly, the impact of decision-making based on user feedback on user engagement is not fully understood. While feedback influences resource allocation and service improvements, its specific role in enhancing user engagement requires further exploration. Although surveys are used to collect feedback, there is a lack of research on how these tools can be optimized to improve engagement. Finally, engagement with digital resources is another area that needs further study. Some studies focused narrowly on certain aspects of digital resource use and did not address broader engagement issues. A more holistic view that encompasses various aspects of user experience and resource interaction would be

beneficial. Addressing these research gaps was essential for developing comprehensive strategies to enhance user engagement in Meru County university libraries. Further investigation in these areas provided valuable insights for improving engagement practices and better meeting the needs of library users

2.8 Conceptual framework

Figure 2.1

Conceptual framework



2.8.1 Description of variable in the conceptual framework

The research utilizes a conceptual structure consisting of dependent and independent variables. The dependent variable is user engagement, which is the level of interaction, involvement, and participation of library users with library resources, services, and facilities. It encompasses various dimensions such as the utilization of library resources and services, participation in programs and workshops, contribution to feedback mechanisms and engagement with social media platforms.

The independent variable, on the other hand, refers to library strategies, which are various strategies implemented by university libraries to enhance user engagement. These strategies can include but are not limited to digital resource accessibility, information literacy programs, social media engagement, and user survey mechanisms. Digital resource accessibility was evaluated as a strategy to enhance user engagement through the availability of online databases, user-friendly interface of digital platforms, and diversity of digital resources offered by the library. Further, user survey mechanisms were assessed on the frequency of user surveys conducted, methods used to administer surveys, response rate to user surveys and feedback gathered on library resources and services. Information literacy programs were examined by topics covered in the information literacy curriculum and library user's satisfaction with information literacy training. Social media strategy was analyzed as a strategy to enhance user engagement based on the number of social media platforms utilized by the library, frequency of library posts on social media, engagement metrics on social media posts and impact of social media campaigns on user engagement metrics.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides an in-depth explanation of the methodology used in the study. It encompasses key elements including research design, target population and sampling technique, research instruments, validity and reliability of research instruments, data creation procedures, and a comprehensive overview of the data analysis and interpretation process. It also provides information about the ethical issues considered in the study.

3.2 Location of the study

This study was conducted in Meru County universities home to two universities. One public university, that is, Meru University of Science and Technology, and one private university, Kenya Methodist University. These two universities have an established library offering a variety of library resources, services and services to its library users.

The researcher chose the location for the study as university libraries offer a wide variety of digital resources including online databases, e-books, and academic journals. Given the university libraries' commitment to providing access to these resources, studying their accessibility measures provided insights into how well they cater to the needs of different users. The university libraries conduct user surveys to gather feedback and understand user needs and preferences, the researcher assessed how user surveys contributed to enhancing user engagement in the university library, providing potential challenges and limitations with different user survey mechanisms.

Meru County University Libraries have established programs aimed at enhancing its users' information literacy skills. By studying these programs, the researcher assessed their impact in improving skills to enhance engagement with library resources and services. In Meru County University Libraries, social media platforms are increasingly becoming important tools for libraries to engage with patrons and promote library resources, facilities, and services. Analyzing their social media platforms' content creation and audience engagement provided valuable insights into effective practices for using social media to enhance user engagement.

3.3 Research Philosophy

A research philosophy is a set of beliefs regarding the collection, analysis, and interpretation of data about a phenomenon (Novikov & Novikov, 2013). A research philosophy guides the design and execution of a research study with different philosophies offering varying ways of understanding scientific research (Dubey & Kothari, 2022).

This study adopted a pragmatic research philosophy to account for both subjective experiences and measurable outcomes. The pragmatic research philosophy emphasizes real-world application which means the researcher strived to tailor strategies that suit the actual needs and preferences of library patrons in Meru County University libraries. Furthermore, pragmatic research involves integrating multiple perspectives. In the context of user engagement, it's data was gathered from different stakeholders, such as library staff, administrators, and most importantly, the users themselves. By incorporating these diverse viewpoints, the researcher gained a more holistic understanding of the factors influencing user engagement and tailored their strategies accordingly.

3.4 Research Design

Research design refers to the overall plan that outlines the structure, methodology, and procedures used to gather and analyze data to address a research question (Dubey & Kothari, 2022). The researcher employed a survey research methodology, which according to Panke, (2018) involves gathering data from a population through questionnaires and interviews to comprehend their attitudes, opinions, behaviors, or characteristics. This particular research design was selected for the study because it facilitated a systematic analysis of strategies aimed at enhancing user engagement in university libraries in Meru County, as well as the identification of key factors influencing participant perspectives. By integrating both quantitative and qualitative methods, the design ensured a comprehensive understanding of the issue under investigation, offering both breadth and depth in data collection and analysis.

According to Johnson (2020), survey research design allows for the collection of comprehensive data from a large and diverse sample. By administering surveys to students, faculty, and staff across various departments and disciplines within the university, a more holistic understanding of user engagement with library services was achieved. Adopting this design allowed the researcher to evaluate the relative effectiveness of different strategies by administering surveys to different user groups at different times, to pinpoint which strategies yield the most significance in user engagement.

Related studies conducted by Avcı and Ergün (2022); Cleverley and Heeson (2019); Lalmas et al. (2022); Musangi (2019); Wani and Ahmad (2024) have all utilized the survey research design. This specific research design was a popular method used by the researcher to primarily collect quantitative data which was analyzed statistically to identify trends, and

patterns in user engagement across different user groups, identifying areas of improvement in library services and resources to better meet the needs of users

3.5 Target Population

The target population of a study refers to the specific group or units that the researcher intends to examine (Tracy, 2019). The study targeted the library staff, undergraduate and postgraduate students of Meru University of Science and Technology and Kenya Methodist University. Table 3.1 displays the study's target population.

Table 3.1

Number of library staff and students in Meru County Universities

University	Library Staff	Undergraduates	Postgraduates
Meru University	17	6000	365
Kenya Methodist University	8	7000	300
Total target population	25	13,000	665

Library staff members are the frontline workers who interact directly with users on a daily basis. They possess in-depth knowledge of library resources, services, and operational processes. They often have insights into user behaviors, preferences, and challenges based on their interactions and observations. They provided insights into the usability and accessibility of digital resources, the effectiveness of user survey mechanisms in soliciting feedback, the impact of information literacy programs on user skills and engagement, and the reception of library social media platforms among library users.

Undergraduate students are typically the largest user group in university libraries. They vary widely in academic disciplines, technological proficiency, and information needs. They are

often heavy users of library resources for coursework, research, and personal interests. They provided insights into their experiences with accessing and utilizing digital resources, their willingness to participate in surveys and provide feedback, their perception of information literacy instruction and its relevance to library engagement, and their engagement with library social media platforms.

Postgraduate students are typically more specialized in their academic pursuits compared to undergraduates. They often engage in advanced research and require access to specialized resources and support services. They may also have teaching or research assistant responsibilities. Postgraduate students provided insights into their use of specialized digital resources and databases, their perspectives on the relevance and effectiveness of user survey mechanisms in addressing their research needs, their perceptions with information literacy instruction tailored to advance their engagement with library resources, and their preferences for accessing scholarly content through social media channels. The researcher gathered data from a sample of 25 library staff and 13,665 students from the two universities.

3.6 Sampling and Sample Size

One of the primary tasks in research is to define the specific population being studied (Taber, 2021). Sekaran and Bourgie (2016) advise that instead of collecting data from all elements in a population, sample it instead to save time and cost. Studying a sample allows researchers to make inferences about a population. Sampling is a method used to obtain a representative sample from a population for research purposes allowing the researcher to produce dependable, reliable, and accurate findings about the population while still being able to generalize the results (Pyrczak et al., 2017).

3.6.1 Sampling Technique

The study employed stratified, random and purposive methods of sampling. Stratified sampling is a research methodology technique where the population is divided into distinct subgroups or strata based on specific characteristics, then randomly selected from each stratum to ensure a representative sample for analysis (Dubey & Kothari, 2022). This method guarantees that each subgroup is represented in the sample, ensuring accuracy and precise estimate of population parameters. It was ideal for the study as undergraduate and postgraduate students were diverse thus allowing the researcher to divide the population into meaningful subgroups based on characteristics such as academic program and year of study. This ensured that each subgroup was represented in the sample, capturing the full spectrum of diversity within the population.

Random sampling is an extremely effective method for selecting a sample from a population. It guarantees that every member of the population has an equal opportunity to be included in the sample, thereby ensuring truly representative results. This method employs chance mechanisms, such as random number generators or random selection from a list, to minimize selection bias and ensure that the sample is truly representative of the population (Gravetter & Forzano, 2018). The sample selection for the study was ideal because it accurately reflected the proportions of undergraduate and postgraduate students in the population. This approach ensured that the findings from the study were applied to the entire population of the university libraries.

Purposive sampling is a non-random method where the researcher selects participants based on their suitability to provide necessary information for the study. It's commonly used in qualitative research to gain in-depth insights from participants with relevant knowledge or

experience (Dubey & Kothari, 2022). It was ideal because it focused on specific individuals who possessed unique insights or experiences relevant to the research question.

3.6.2 Sampling size

3.6.2.1 Undergraduates and Postgraduates

The researcher first, identified the total number of undergraduate and postgraduate students enrolled in the Meru County universities. The researcher used stratified random sampling to ensure representation across different academic disciplines and years of study. The researcher calculated the required sample size of undergraduate students based on the formulae by Nassiuma (2000) model. The respondents who participated were calculated by formulae below:

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

Where:

n = Sample size

N = Target population

c = Covariance is a 0.3

e = Tolerance at the desired level which is taken at 0.02

The sample size of the undergraduate and postgraduate students was calculated and indicated as shown in Table 3.2 below. Also, the researcher determined the total number of postgraduate students enrolled in the Meru County universities, then utilized simple random sampling to guarantee that every postgraduate student was chosen. The Nassiuma (2000) model was also used to calculate the required sample size. The sample size for undergraduate and postgraduate students was calculated and presented in Table 3.2.

Table 3.2

Sample size

	Undergraduates	Postgraduates
Meru University	216	139
Kenya Methodist University	218	128
Total sample size	434	267

3.6.2.2 Library Staff

Using purposive sampling, the researcher targeted library staff who had specific roles relevant to the research objectives. The selected staff were library directors/university librarians, user services librarians, digital resources librarians, information literacy librarians, and outreach or marketing librarians. The digital resources librarians were responsible for managing and ensuring accessibility of online databases and electronic resources, instruction or information literacy librarians designed and delivered information literacy programs aimed at engaging users and enhancing their research skills. Outreach or marketing librarians were responsible for implementing social media strategies and promoting library services through online platforms. User services librarians were involved in collecting and analyzing user feedback through surveys and other assessment methods.

3.7 Data Collection Methods

To conduct effective research, you need reliable data collection instruments. These tools ensure accurate and valid information from respondents. The main data collection tools for this study were questionnaires and interviews.

3.7.1 Questionnaire

A questionnaire is a tool used to collect data by asking respondents a series of questions (Dubey & Kothari, 2022). This data collection tool was an ideal choice for the survey research by gathering information from a large number of participants. The researcher used questionnaires to collect data from undergraduate and postgraduate students. The questionnaire included open-ended and closed-ended questions to ensure comprehensive and insightful responses. Open-ended questions had predefined responses that encouraged respondents to provide answers in their own words. Closed-ended were answered by selecting from a limited set of predefined response options. The closed-ended questions were a binary scale; that presented respondents with a Likert scale; that measured the degree of effectiveness with a strategy used to enhance user engagement with library resources and services.

The questionnaire was categorized into five sections, that is, sections; A, B, C, D and E. Section A asked questions on the demographic data of the respondent, Section B sought to evaluate digital resource accessibility as a strategy to enhance user engagement, Section C assessed effectiveness user survey mechanisms in enhancing user engagement, Section D examined the use of information literacy programs as strategy to enhance user engagement, Section E analyzed social media strategies that enhanced user engagement. The questionnaire utilized is in Appendix III.

3.7.2 Interviews

Data was also collected through a structured interview. A structured interview is a research methodology characterized by the systematic administration of a predetermined set of open-ended questions to all participants in a consistent and standardized manner (Olson, 2016).

The researcher conducted interviews with library staff at both Meru University and Kenya Methodist University libraries. The interview guide was categorized into five sections, A, B, C, D and E. containing open-ended questions that encouraged respondents to express their thoughts, opinions and experiences freely. Section A gathered background information of the library staff, and the other sections sought to evaluate digital resource accessibility, analyze social media strategies, assess user survey mechanisms, and examine the information literacy program as strategies that enhanced user engagement in university libraries in Meru County. The researcher took notes with permission from the respondents. The interviews took an average of fifteen to twenty minutes and were conducted in the librarians' offices. The interview guide that was used is in Appendix II.

3.8 Piloting of Research Instruments

Before gathering data from the participants, the researcher conducted a pilot test of the questionnaires and interview guide on a small group of library staff and students from the University of Embu. The university was chosen because it shared comparable characteristics with the universities included in the study sample. These characteristics included having ample digital resources, using social media platforms, carrying out user surveys, and having an information literacy program, making it a suitable institution to carry out the test.

The pilot test was intended to ensure that the instruments were appropriate for use and that they gathered the necessary information while ensuring the anonymity of the study participants. For the pilot test, the participants consisted of undergraduate, postgraduate, and library staff. Random sampling was used to select samples from undergraduate and postgraduate students from the university’s student database. Based on recommendations

for piloting testing in research, a sample size of 30 or more participants is commonly used (Perneger et al., 2015). For the pilot study, a total of 30 students (15 undergraduate and 15 postgraduate) were randomly selected. Purposive sampling was employed to select library staff who were readily available and willing to participate in pilot testing. The feedback obtained from pretesting the research instruments was effectively utilized to address issues and significantly improve the overall quality of the research tools.

3.9 Validity of Research Instruments

The extent to which a research tool measures what it's intended to be is called validity (Taherdoost, 2018). Accurate research is only possible when the tools used to measure data are valid. Therefore, it's crucial to ensure that a research tool is valid to obtain reliable results. Validity in the research instruments was ensured through content, construct, and face validity. Content validity is the degree to which a research tool accurately represents the full range of phenomena it is designed to measure (Trochim et al., 2006). Content validity was ensured through a review of the interview guide and questionnaire items by a panel of subject matter experts, that is, academic librarians and researchers in the field of information sciences. Further, content validity was ensured through a review of relevant literature to identify key concepts, themes, and dimensions that should be addressed in the instrument. Also, the research instrument underwent pilot testing with a small sample of participants. Feedback from the pilot testing was used to refine and modify the instrument to ensure that it adequately captured the intended content domain.

Construct validity is the degree to which a research tool effectively evaluates the theoretical constructs or concepts it aims to measure (Bryman, 2016). Construct validity was guided by

a clear theoretical framework that defined the key constructs and relationships under investigation. This framework provided a basis for designing the research instrument and selecting appropriate measurement items to assess each construct. The concept of face validity pertains to how much a research tool seems to be measuring what it is designed to measure, based on its surface characteristics (DeVellis, 2016). Face validity was ensured by an interview guide and questionnaire items written in clear and understandable language to ensure that participants easily comprehended the content and thus answered the research questions in the study.

3.10 Reliability of Research Instruments

According to Taherdoost (2018), reliability refers to the consistency and stability of measurements obtained from a research instrument. Ensuring reliability is essential to produce trustworthy and replicable research findings. Cronbach's alpha coefficient was used as a reliability test for research instruments. Pretesting of the research instruments was done by administering them to a sample of participants. Once the responses were collected from participants, the researcher used the statistical package SPSS to calculate Cronbach's alpha coefficient. After calculating Cronbach's alpha, a value higher than 0.7 was considered acceptable for research purposes as this indicated good internal consistency among items in the research instrument. If a value was below 0.7, it indicated that some items were not consistent in measuring the underlying construct. In such cases, certain items were revised or removed to improve the reliability of the instrument.

3.11 Data Collection Procedures

The information-gathering process involved conducting face-to-face interviews with individuals and administering questionnaires to collect data. The interviews were conducted

to obtain detailed responses and insights from participants, while the questionnaires were used to gather quantitative data and broader perspectives from a larger sample size.

3.11.1 Procedures for conducting interview

Library staff were recruited through purposive sampling. Before the interview, they were provided with a detailed information sheet explaining the purpose and benefits of the study. An interview guide, developed based on the research objectives, included a list of open-ended questions designed to elicit in-depth responses from the library staff. After obtaining consent from participants, detailed field notes were written down during the interview to ensure accurate documentation of the interviewees' responses.

Interviews were conducted in a quiet and comfortable room in the university library. The library staff were briefed on the interview process, including the purpose of the study and confidentiality assurances. Any questions or concerns raised were addressed before proceeding with the interview. Library staff were encouraged to share their thoughts, experiences, and perspectives freely, with minimal interruption from the interviewer. Probing questions were used to explore participants' responses in more depth and clarify any unclear points. At the end of the interview, staff were allowed to ask questions or provide additional comments. The interviewer thanked each one for their contribution to the study.

The researcher adhered to ethical guidelines, storing recorded data securely and confidentially, and complying with data protection regulations. Furthermore, each transcript of the written interview data was anonymized to protect the confidentiality of participants.

3.11.2 Procedures for administering questionnaires

A closed-ended questionnaire based on the research objectives was developed. The clarity, relevance, and appropriateness of the questionnaire were evaluated through pilot testing and expert review. The participants were given a cover letter explaining the study's purpose and the voluntary nature of participation. Informed consent was obtained before the questionnaire was administered. The questionnaire was administered in print format or electronically, depending on participants' preferences and accessibility. For electronic questionnaires, the researcher obtained the email addresses of students from the Deputy Vice-Chancellor office of both participating universities, after that, researcher sent the Google Form link to the randomly selected students. The questionnaire included clear instructions on how to complete it.

The researcher offered assistance to participants who required clarification on questionnaire items or encountered technical difficulties. Additionally, the researcher provided contact information for further inquiries or assistance throughout the data collection period. For questionnaires dropped off and to be picked up from the respondents after a reasonable period, a follow-up was conducted to remind them of the importance of their participation and to increase response rates. The researcher checked for completeness and accuracy of responses, resolving any discrepancies or missing data as needed. The completed questionnaires were stored securely and confidentially, adhering to data protection regulations and ethical guidelines.

3.12 Data Processing and Analysis

After the data collection phase, the next step involved transitioning to the data analysis stage. In this stage, both quantitative and qualitative data analysis methods were employed to examine the collected questionnaire data and interview responses.

3.12.1 Analysis of qualitative data

Transcripts containing data collected from interviews were reviewed for accuracy and completeness, ensuring that all relevant data was captured. The researcher read through the transcripts multiple times, taking detailed notes to identify key themes and concepts emerging from the data. Different segments of text were grouped into themes and sub-themes, reflecting on commonalities and differences among the participants.

Key findings, themes, and supporting evidence were presented in a structured format, allowing for clear and concise reporting of qualitative results. Direct quotes and illustrative examples were used to enrich the presentation of qualitative findings.

3.12.2 Analysis of quantitative data

Quantitative data from the survey were inputted into the Statistical Package for the Social Sciences for analysis. Before analysis, the data were checked for completeness, accuracy, and consistency to ensure the reliability of the findings. Any missing or erroneous data were addressed through data-cleaning procedures. The researcher downloaded the completed questionnaires as Microsoft Excel files (.xls) and then imported them into statistical software for coding.

The study sample and main variables were summarized and described using descriptive statistics. This involved calculating measures of central tendency such as mean, median, and

mode, as well as measures of dispersion like standard deviation to understand the distribution of the data.

Quantitative findings were interpreted in the context of the research objectives and questions. Results were reported clearly and concisely, using tables, figures, and narrative descriptions to present key findings and statistical analyses. The implications of the quantitative findings for enhancing user engagement in university libraries were discussed.

3.13 Measurement of variables

Table 3.3 presents a comprehensive outline detailing the operationalization and measurement of each variable.

Table 3.3

Operation and measurement of each variable

Research objectives	Operational variables	Measurements
i. Evaluate digital resource accessibility as a strategy to enhance user engagement in Meru County University Libraries	• Key accessibility features required for digital resources • User engagement metrics • Accessibility interventions implemented • Users Perceive the accessibility of digital resources • Designed interfaces	Descriptive Statistics and Thematic analysis
ii. Assess user survey mechanisms to enhance user engagement at Meru County University Libraries	• Survey Response Rate • Survey Content Relevance • Survey Completion Rate • User Satisfaction with Survey Processes	Descriptive Statistics and Thematic analysis
iii. Examine the use of information literacy programs as a strategy to enhance user engagement in Meru County University Libraries.	• Instructional methods • Users information literacy skills • Post-assessment scores of literacy programs • Information Literacy content coverage	Descriptive Statistics and Thematic analysis

iv.	Analyze social media strategies to enhance user engagement in Meru County University Libraries	• Utilized Social media platforms • Awareness of social media presence • Social media content • Impact of social media	Descriptive Statistics and Thematic analysis

The measurement of qualitative data in this research study involved employing various methods and techniques tailored to the specific research objectives. Through thematic analysis, content analysis, and narrative analysis, the researcher systematically analyzed qualitative data to gain insights into digital resource accessibility strategies, user survey mechanisms, information literacy programs, and social media strategies aimed at enhancing user engagement in university libraries in Meru County

3.14 Ethical Considerations

The researcher followed strict ethical research principles during the collection and analysis of data. This was ensured by presenting authorization letters from Kenya Methodist University, a research permit from National Commission for Science, Technology, and Innovation, and a letter of introduction before gathering data in universities in Meru County. A comprehensive consent form was developed and provided to all participants in the research study. The study's purpose, the procedures involved, the measures to ensure confidentiality, and the voluntary nature of participation were detailed in the consent form. Participants were required to read and understand the contents of the consent form before providing their informed consent to participate in the study. They had the opportunity to ask questions and seek clarification about any aspects of the study.

Participants were informed that taking part in the research study was optional and that they could choose not to participate or withdraw from the study at any point without experiencing any form of coercion or pressure. Measures were implemented to ensure the confidentiality and anonymity of participants' responses and personal information throughout the research process. Participants' identities were protected by using anonymity rather than their names

or other identifying information. Data collected from participants were stored securely and accessed only by the researcher. Any personal information collected was kept confidential and used for research purposes only.

The researcher conducted the study with objectivity, integrity, and respect for the dignity and rights of participants, refraining from engaging in any behaviour that could compromise the validity or integrity of the research findings. Participants were treated with respect and consideration for their perspectives, experiences, and opinions. The researcher actively listened to participants, validated their contributions, and acknowledged their expertise and insights.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The results from the collected data are presented in this chapter, grouped into key thematic areas according to the research objectives aimed at analyzing the strategies for enhancing user engagement in university libraries in Meru County, with a specific focus on recommending actionable best practices. The data is presented through clear and concise tables and figures, providing a comprehensive overview including percentages, frequencies, and detailed descriptions.

4.2 Reliability Test Results

A reliability test was carried out to evaluate the reliability of the questionnaire. Specifically, Cronbach's Alpha coefficients were computed, and the results are shown in Table 4.1.

Table 4.1

Reliability statistics

Main variables of the study	Cronbach's Alpha
User Engagement in Meru County University Libraries	.880
Digital resource accessibility as a strategy to enhance user engagement	.948
User survey mechanisms to enhance user engagement	.937
Information literacy programs as a strategy to enhance user engagement	.936
Social media strategies to enhance user engagement in Meru County University Libraries	.931

The reliability test revealed that each key variable had a Cronbach's alpha value exceeding 0.8. As noted by Baker (2018) a correlation coefficient above 0.7 signifies trustworthy data, thereby substantiating the reliability of the questionnaire items. Consequently, these items were deemed suitable for inclusion in subsequent analyses.

4.3 Response rate

This study assessed the response rates of three distinct groups: library staff, undergraduate students, and postgraduate students from Meru University of Science and Technology and Kenya Methodist University. The researcher utilized interviews and questionnaires for data collection. The researcher gained insights into the engagement levels across these cohorts by analyzing the collected data. For the library staff, a sample of 25 library staff members were selected. These individuals represented various roles within the library. For the undergraduates, the sample included 434 undergraduate students, out of these, 410 undergraduate students responded to the survey, translating to a 94.5% response rate. These students were drawn from different academic disciplines and years of study. For the postgraduates, 267 students were sampled, out of these, 190 postgraduate students responded to the survey, translating to a 71.1% response rate. This group consisted of master's and doctoral students across diverse fields. Out of the 25 library staff members, 18 responded to the survey, translating to a 72% response rate.

The survey achieved impressive response rates of 94.5% for undergraduates, 71.1% for postgraduates, and 72% for library staff, surpassing the benchmarks set by various studies. According to Nishishiba et al. (2013), response rates above 70% are significantly higher than the average indicating strong engagement with a survey. Additionally, Baruch (2012)

states that response rates above 50% are acceptable, with rates above 70% being excellent, emphasizing that higher response rates enhance the representativeness and reliability of survey results. Holtom et al. (2022) state that response rates above 60% are considered good in survey methodology, while rates above 70% are considered very good.

4.4 Background Profiles of Respondents

The inquiry into the demographic characteristics of the respondents immediately delved into a thorough analysis of the background information of undergraduate and postgraduate students, as well as library staff.

4.4.1 Background Profile of the Undergraduate Students

This study aimed to investigate two key details about undergraduate students: gender and year of study. The results obtained are presented in Table 4.2

Table 4.2

Demographic information of the undergraduate students

Demographic Information	Subset	Frequency	Percentage
Gender	Male	206	50.2
	Female	204	49.7
	Total	410	100.0
Year of Study	First-year	34	8.3
	Second year	192	46.8
	Third year	123	30.0
	Fourth-year and above	61	14.9
	Total	410	100.0

The results show that the majority of undergraduate students in Meru County universities were male 206, (50.2%), while the remaining students 204, (49.7%) were female. This suggests a relatively equal gender distribution among undergraduate students in universities in Meru County. This show that the information obtained was a result of input from both males and females, thus it was expected to be balanced. Most of the undergraduate participants were second-year students 192, (46.8%), followed by third-year students 123, (30.0%), fourth-year and above students 61, (14.9%), and the fewest were first-year students 34, (8.3%). The findings suggest that second and third-year students use library resources more than first and fourth-year students. Whitmire (2011) found that third and second-year students engage more with library resources due to their heavier coursework and need for extensive research materials. Further, she states ss they settle into their academic routines, they become more aware of the benefits of using these resources.

The results regarding a few first-year students who took part in the study are consistent with a study conducted by Soria et al. (2013) which found that first-year students often use the library less as they are still getting used to the university environment and learning how to effectively utilize available resources. The small number of fourth-year participants in this study is in line with the study by Anderson (2023) which suggests that senior students often shift their focus towards applying their knowledge in practical settings, leading to less frequent use of library resources for academic purposes.

4.4.2 Background Profile of the Postgraduate Students

This study aimed to investigate two key details about postgraduate students: gender and year of study. The results obtained are presented in Table 4.3.

Table 4.3

Demographic information of the postgraduate students

Demographic Information	Subset	Frequency	Percentage
Gender	Male	105	55.3
	Female	85	44.7
	Total	190	100.0
Year of Study	First-year	53	27.9
	Second year	137	72.1
	Total	190	100.0

The results show that the majority of postgraduate participants were male 105, (55.3%), while 85, (44.7%) were female. This suggests a relatively equal gender distribution among postgraduate students in universities in Meru County. This show that the information obtained was a result of input from both males and females, thus it was expected to be balanced. Most of the postgraduate participants were second-year students 137, (72.1%), while 53, (27.9%) were first-year students. The results show that most postgraduate participants were second-year students (72.1%), while 27.9% were first-year students. This distribution can be compared to past studies that have examined the differences in engagement and library usage between first- and second-year postgraduate students. According to ACRL (2023), first-year postgraduate students often have lower engagement with library resources compared to their second-year counterparts, as they are still familiarizing themselves with the available services and support structures. Anderson (2023)

notes that second-year postgraduate students are more likely to utilize advanced library services, including interlibrary loans, specialized databases, and reference management tools, as they have established their research topics and are deeply involved in their scholarly work.

4.4.3 Background Profile of the Library Staff

This study aimed to investigate two key details about library staff, that is, designation and year they have worked in the university libraries. The results obtained are presented in Table 4.4

Table 4.4

Years worked in the university libraries

Experience	Frequency	Percentage
Below 5 years	4	22.2
Between 5-10 years	7	38.9
Above 10 years	7	38.9
Total	18	100.0

In the case of the library staff, (7) 38.9% had work experience of above 10 years, (7) 38.9% between 5-10 years. While (4) 22.2% had a work experience below 5 years. The results showed that a significant portion of the library staff had more than 5 years of experience. The results showed that the university libraries had experienced staff members with extensive knowledge and familiarity with library resources. The findings agreed with those recorded by Joo and Choi (2021) who highlighted that experienced librarians are better at

implementing effective user engagement strategies because they understand user needs more comprehensively, having witnessed various user behavior trends over the years.

4.5 User engagement in Meru County university libraries

The study aimed to understand how undergraduate and postgraduate students engage with university library resources and services. The respondents rated their engagement frequency based on the provided statements. Never (1), Rarely (2), Occasionally (3), Often (4), and Always (5) were the options on the Likert scale. The results are shown in Table 4.5.

Table 4.5

Frequency engagement with the university library

Statements on the frequency of engagement with the university library (N= 600)	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)	M	SD
a) I visit the library to borrow books or other materials.	140 (23.3%)	231(38.5%)	88(14.7%)	79(13.2%)	62(10.3%)	2.49	1.26
b) I use the library's online databases or electronic resources for research purposes.	41 (6.8%)	179(29.8%)	108(18.0%)	157(26.2%)	115(19.2%)	3.21	1.24
c) I attend information literacy sessions offered by the library.	229(38.2%)	210(35.0%)	66(11.0%)	83(13.8%)	12(2.0%)	2.07	1.10
d) I seek assistance from library staff when conducting research or locating resources.	81(13.5%)	152(25.3%)	70(11.7%)	187(31.2%)	110(18.3%)	3.16	1.34
e) I participate in library-sponsored events or activities.	307(51.2%)	149(24.8%)	73(12.2%)	45(7.5%)	26(4.3%)	1.89	1.14
f) I follow the library's social media accounts for updates and announcements	256(42.7%)	52 (8.7%)	109(18.2%)	158(26.3%)	25(4.2%)	2.41	1.36

From the results in Table 4.5, majority of the students often 187(31.2%) and 110(18.3%) always seek assistance from library staff when conducting research or locating resources. Additionally, majority 157(26.2%) often and 115(19.2%) use the library's online databases or electronic resources for research purposes. Also, 158(26.3%) occasionally follow the library's social media accounts for updates and announcements However, the majority 307(51.2%) of the participants indicated they never participate in library-sponsored events or activities. Also, 256 (42.7%) never follow the library's social media accounts for updates and announcement. Further, 229(38.2%) never attend information literacy sessions offered by the library while 210(35.0%) rarely attend information literacy sessions offered. The results show significant portion of students seek assistance from library staff when conducting research or locating resources. This indicates a high level of engagement with the expertise of library staff. McClure and Krishnamurthy (2018) found similar trends where students frequently rely on library staff for assistance which enhanced students' research capabilities and overall library experience.

The data also shows that a majority of students use the library's online databases or electronic resources. This suggests that students are aware of and take advantage of digital resources for their academic work. The trend of students using online databases aligns with Tenopir et al. (2019) finding which noted a growing reliance on digital resources due to their accessibility and the breadth of available information. The majority of participants also indicated they do not participate in library-sponsored events or activities. These results also support the findings by Bury (2019) who found that students perceive library events as non-essential. Also, a significant number of students (42.7%) do not follow the library's social

media accounts. The low engagement with social media accounts is not uncommon. Collins and Quan-Haase (2021) found that while libraries use social media extensively, they often struggle to engage students effectively. A notable portion of students never or rarely attend information literacy sessions. This low attendance suggests that either students do not see t/he value in these sessions, are unaware of them, or find them inconvenient to attend. These results are consistent with Julien & and Barker (2020) assertion that many students do not attend these sessions because they fail to recognize their importance or are unaware of their existence.

The library staff were interviewed to gather insights on user engagement in their university libraries based on the objectives of the study. When asked how they determined if students were actively participating and utilizing library resources, the staff provided a variety of responses. The most frequently mentioned methods included analyzing borrowing statistics from the library management system, checking user registers in various library departments, conducting user surveys, and monitoring the frequency of inquiries about digital resources such as e-books and e-journals. One example of the types of comments received includes mentions such as: *"We usually analyze borrowing statistics from the library management system to track how often students check out materials,"* noted one staff member. Another added, *"We rely on user surveys and inquiries about digital resources as indicators of engagement."*

When probed about methods for gathering feedback from students about their library experiences, a major theme that emerged was the use of online surveys (such as Google Forms), feedback forms placed in suggestion boxes, and engagement through social media platforms like WhatsApp and Facebook. Some respondents shared their thoughts through

quotes such as: *"We've had success using Google Forms for online surveys."* Another added, *we get suggestions through feedback forms in the suggestion boxes."* Another said, *"Social media platforms like WhatsApp and Facebook help us connect with students where they are most active."* When asked about activities that have been successful in encouraging student involvement with the library, the majority of respondents highlighted library orientations and information literacy sessions as particularly effective.

One respondent said:

"Our library orientations are key in getting new students familiar with the resources we offer, and the information literacy sessions are highly attended," one staff member shared. Some other respondents stated:

"Partnering with lecturers to integrate library books into coursework"

"Providing hands-on workshops on citation management software"

"Setting up temporary library stations in high-traffic campus areas to showcase resources and offer quick research assistance"

The results show strategies used to enhance engagement with library resources, that is, utilization of social media to promote library resources, established channels for user feedback to continually improve services, offering information literacy sessions and orientations to help users effectively utilize library resources and availability of a wide range of digital resources. The findings in this study were in line with those previously reported by Appleton (2020); Avcı and Ergün (2022); Chan et al. (2020); DeVille and Sughrue (2023) that there various strategies are employed to enhance user engagement of resources, facilities, and services in university libraries.

4.6 Digital resources accessibility as a strategy to enhance user engagement

The first objective sought to assess how digital resource accessibility enhances user engagement in Meru County University Libraries. The study first investigated how effectively undergraduate and postgraduate students engage with digital resources provided by the university library. The respondents rated the effectiveness of engaging with digital resources based on the provided statements. Not effectively (1), slightly effectively (2), moderately effectively (3), effectively (4) and highly effectively (5) were the options on the Likert scale. The results are presented in Table 4.6

Table 4.6

Effectiveness of engaging digital resources

Digital resources (N= 600)	**1 f (%)**	**2 f (%)**	**3 f (%)**	**4 f (%)**	**5 f (%)**	**M**	**SD**
E-journals	245(40.8%)	191(31.8%)	48(8.0%)	71 (11.8%)	45 (7.5%)	2.13	1.27
E-books	71 (11.8%)	52 (8.7%)	324(54.0%)	56(9.3%)	97(16.2%)	3.09	1.14
Institutional Repository	140(23.3%)	116(19.3%)	155(25.8%)	92(15.3%)	97(16.2%)	2.82	1.38
Online databases	65(10.8%)	131(21.8%)	142(23.7%)	116(19.3%)	146(24.3%)	3.25	1.33
Online Public Access Catalogue	97(16.2%)	33 (5.6%)	244(40.7%)	157(26.2%)	69(11.5%)	3.11	1.19

Based on Table 4.6 data, majority of 262 (43.6%) respondents engage with online databases effectively. Also 226 (37.7%) of the respondents were able to engage with Online Public Access Catalogue (OPAC) effectively, while 244 (40.7%) were able to engage with OPAC

effectively. The findings imply that the majority of students engage effectively with online databases and OPAC. This suggests that students are proficient in utilizing digital resources for their academic needs, reflecting the successful adoption and integration of these resources into their study routines. The findings align with the findings of Tenopir et al. (2019) that a significant number of students effectively use online databases due to their convenience and the vast amount of accessible information. This appears to be a discrepancy with the results of Stone and Ramsden (2018) that while many students do not engage with online databases provided in academic library

However, majority 245 (40.8%) respondents indicated they were not effective in engaging with e-journals while 191 (31.8%) were slightly effective in engaging with electronic journals. Also 140(23.3%) were not able to engage with the institutional repository, with 116(19.3%) of the respondents slightly able to engage with repository while 155(25.8%) were moderately effective in engaging with institutional repositories. The results indicate that many students face challenges in effectively engaging with e-journals and institutional repositories. The results align with Borrego et al. (2018) findings that although e-journals are readily accessible, many students struggle to effectively utilize them. The results further align with Alemu (2019) findings that many students find institutional repositories difficult to navigate and underutilize them. However, this is in contrast with Kennedy and Cole (2020) findings that significant engagement with institutional repositories among academic library users.

The undergraduate and postgraduate students were asked to rate the accessibility of these digital resources provided by the university libraries. The findings were presented in Table 4.7

Table 4.7

Accessibility of digital resources

Rate on accessibility of digital resources (N= 600)	Frequency	Valid Percentage
Excellent	44	7.3%
Good	272	45.3%
Fair	253	42.2%
Poor	31	5.2%

Based on Table 4.7 results, majority 272 (45.3%) of the respondents rated accessibility of the digital resources in university libraries as good, with 253 (42.2%) respondents rated the accessibility as fair. Also, 44 (7.3%) respondents rated the accessibility as excellent. However, 31 (5.2%) respondents rated the accessibility of digital resources as poor. The results indicate that the majority of students find ease in accessing digital resources provided by university library although a small number rated the accessibility as poor, suggesting that there still barriers that need to be addressed. The results align with Kato et al. (2021) findings that most students find digital resources relatively accessible.

In addition, the study sought participants' opinions on the effectiveness of digital resource accessibility strategies as a strategy in enhancing engagement with the university library. Participants were provided with different sets of statements and asked to rate their accuracy on a scale. The findings are summarized in Table 4.8.

Table 4.8

Effectiveness of digital resource accessibility strategies

Statement on effectiveness of digital resources accessibility (N= 600)	Not effective		Slightly effective		Moderately effective		Effective		Highly effective		M	SD
	f	%	f	%	f	%	f	%	f	%		
The availability of searchable databases and catalogs simplifies finding relevant digital resources.	61	10.2%	36	6.0%	206	34.3%	243	40.5%	54	9.0%	3.32	1.063
The provision of user guides or tutorials for accessing and navigating digital resources facilitates my use of library materials.	34	5.7%	203	33.8%	173	28.8%	117	19.5%	73	12.2%	2.99	1.117
The user-friendly interface of the library's digital platforms enhances my overall experience when accessing resources	30	5.0%	179	29.8%	202	33.7%	129	21.5%	60	10.0%	3.02	1.056
The provision of remote assistance or troubleshooting support for accessing digital resources increases my confidence in utilizing library materials.	29	4.8%	106	17.7%	178	29.7%	235	39.2%	52	8.7%	3.29	1.012
The implementation of security measures for protecting user privacy and data security when accessing digital resources increases my trust in the library’s digital infrastructure.	40	6.7%	73	12.2%	326	54.3%	55	9.2%	106	17.7%	3.19	1.074
The provision of alternative formats for digital resources (e.g., audio versions, Braille) increases accessibility for users with diverse needs.	48	8.0%	93	15.5%	174	29.0%	125	20.8%	160	26.7%	3.43	1.253

The availability of remote access to digital resources allows me to engage with library materials from anywhere	33	5.5%	61	10.2%	175	29.2%	96	16.0%	235	39.2%	3.73	1.231
The variety and quality of digital resources available through accessible formats meet my academic needs effectively	36	6.0%	216	36.0%	85	14.%	122	20.3%	141	23.5%	3.19	1.307

Based on Table 4.8 results, 235 (39.2%) of the respondents rated availability of remote access to digital resources as a highly effective strategy that enhances engagement, with 96 (16.0%) respondents rating the strategy as effective. Also 243(40.5%) respondents rated the availability of searchable databases and catalogs as simplifying finding relevant digital resources as effective strategy in enhancing engagement with digital resources. The results indicate that most students engage in digital resources due to ease of access and skills in navigating online databases and catalogues. This is contrary to Tenya et al. (2023) findings that students were not able to use the library catalogue and that utilization of digital resources by university students was significantly low.

However, 216 (36.0%) of respondents indicated that the variety and quality of available digital resources did not meet their academic needs. Furthermore, 179 (29.8%) of the respondents found the interface of the library's digital platforms non-user-friendly, which affected their overall engagement with digital resources. The findings showed that the quality of digital resources did not meet the academic needs of students. Additionally, the user interface of digital platforms made it difficult for students to engage with them. This supports the findings of DeVille and Sughrue (2023) that digital resource databases lack user-friendly interfaces, making them cumbersome to use. However, these findings contrast with Tabassum (2023) research, which found that digital resources in academic libraries were consistent with curriculum needs.

The library staff were interviewed to gather insights on the digital resources available in the university library, as well as the strategies employed to enhance accessibility and user engagement. The first key theme identified, which was informed from the interview, was

the availability of digital resources. The library staff identified a range of digital resources available to users, including e-books, e-journals, online databases, the online public catalog (OPAC), and the institutional repository. For example, one staff member stated, *"Our digital offerings include a wide range of e-books, e-journals, and access to various online databases.* Another said: *we have an institutional repository that houses research outputs from our university community."*

The findings suggest that the university libraries were equipped with comprehensive digital resources to support both academic and research needs. The availability of such diverse digital tools demonstrated a commitment to ensuring that students and staff have access to both contemporary and archival materials, thus fostering a research-rich environment.

However, the level of engagement with these resources is dependent on how accessible and user-friendly they are, which leads to the next theme, measures taken to ensure digital resources are easily accessible. The library staff were interviewed on measures that were taken to ensure that these digital resources were easily accessible to all users. Several measures that emerged from this discussion included; making the database platforms user-friendly, offering text-to-speech customization for accessibility, providing virtual training and tutorials, ensuring the availability of a wireless network, and integrating multimedia formats like videos. For example, one staff member stated,

"We've made our databases as user-friendly as possible, and we've added features like text-to-speech customization for visually impaired users," Another staff member added,

"We offer virtual training sessions and tutorials to guide users through navigating our digital platforms."

When asked how the provision of digital resources has impacted user engagement, the staff pointed to several key indicators, including increased queries from users about access, a rise in virtual literacy sessions, and the acquisition of the mobile app MyLoft to encourage more frequent use of digital resources. For example, one staff stated

"We've seen an increase in user queries about how to access digital resources, and our virtual literacy sessions are becoming more popular." Another added,

"The introduction of the MyLoft app has been particularly effective in encouraging students to access our digital resources more frequently on their mobile devices."

The findings showed a clear effort by the university libraries to remove barriers to resource use. The emphasis on user-friendly platforms, alongside the provision of virtual training, suggested that the libraries recognized the diverse technological skill levels of its users and were actively working to make the resources more inclusive. The surge in inquiries and the success of virtual literacy sessions indicate that users are taking a more active approach to utilizing the libraries' digital tools. Furthermore, the introduction of the MyLoft app reflects the libraries' acknowledgement of the significance of mobile accessibility in today's digital era. By allowing users to access resources via their smartphones, the libraries have presumably enhanced convenience and overall usage. These results support previous studies by Fingillah and Aliero (2023); Memusi and Khamadi (2022); Merande (2021) that

emphasize the importance of digital resource accessibility in enhancing user engagement with library services.

4.7: Effectiveness of user survey mechanisms in enhancing engagement with the university library

The second objective aimed to assess the effectiveness of survey mechanisms in boosting user engagement at Meru County University Libraries. Respondents were asked to rate the effectiveness of these mechanisms on a scale ranging from "Not effective" (1) to "Highly effective" (5). The results can be found in Table 4.9.

Table 4.9

Effectiveness of user survey mechanisms in enhancing engagement

Statements on effectiveness of user survey mechanisms in enhancing engagement	Not effective		Slightly effective		Moderate effective		Effective		High effective		M	SD
	f	%	f	%	f	%	f	%	f	%		
The ability to participate in surveys enables me to express my thoughts and ideas about library services.	82	13.7%	136	22.7%	159	26.5%	167	27.8%	56	9.3%	2.97	1.19
Survey responses are taken into consideration by library staff when making improvements to resources and services.	44	7.3%	144	24.0%	141	23.5%	222	37.0%	49	8.2%	3.15	1.1
Participating in surveys makes me feel valued as a library user and encourages me to engage more with library initiatives.	203	33.8%	216	36.0%	59	9.8%	34	5.7%	88	14.7%	2.16	1.09
The survey questions are clear and relevant to my experiences with library resources and services.	32	5.3%	90	15.0%	192	32.0%	148	24.7%	138	23.0%	3.45	1.15
I have seen changes implemented in response to feedback provided through library surveys	101	16.8%	146	24.3%	210	35.0%	95	15.8%	48	8.0%	2.74	1.15
Survey results are communicated transparently, and actions taken based on feedback are shared with library users.	47	7.8%	183	30.5%	125	20.8%	172	28.7%	73	12.2%	3.07	1.17
The survey process is convenient and accessible, allowing me to provide feedback at my convenience.	62	10.3%	187	31.2%	198	33.0%	101	16.8%	52	8.7%	2.82	1.12
The library actively seeks input from users through a variety of survey methods (e.g., online surveys, focus groups).	43	7.2%	178	29.7%	183	30.6%	131	21.9%	64	10.7%	2.99	1.11

According to the results in Table 4.9, the majority of respondents 286, (47.7%) indicated that the survey questions were effective, clear, and relevant to their experiences with library resources and services. However, majority of the respondents, 203 (33.8%), stated that participating in surveys did not make them feel valued as library users or encouraged to engage more with library initiatives. Furthermore, 146 (24.3%) of the respondents mentioned that surveys were only slightly effective because they did not see changes implemented in response to the feedback provided. Another 101 (16.8%) agreed that the survey mechanism was not effective in enhancing engagement as they did not see changes implemented in response to the feedback provided.

The results imply that the university libraries utilized surveys in gathering feedback from users surveys to customize their services with effectiveness of survey questions being clear and relevant to capture the needs and areas of improvement from users however the surveys were not effective enough as needs of users were not implemented regardless of responses made in surveys conducted. This confirms Gathoni and Van Der Walt (2019) findings that, although the Aga Khan University library carried out occasional surveys, the needs of users were still not met and the service gaps were not identified from surveys done.

To gather and verify data on user experiences, the library staff were asked about the methods used to collect feedback from students and other users. Several key themes emerged from the interviews, providing insights into the feedback mechanisms and their effectiveness. One key theme included, feedback collection methods. According to most respondents, the primary methods for gathering feedback included online surveys, customer feedback forms, and the use of a complaint register, for example, one staff noted,

"We primarily rely on online surveys to collect feedback from students, along with the occasional use of feedback forms and our complaint register,". Another noted, *"one-on-one interviews with library patrons."*

When asked about the frequency of user surveys and the response rates achieved, a major theme that emerged was that surveys were conducted only occasionally, and the response rate was consistently low. Some of the respondents' comments included mentions such as:

"We only conduct surveys a few times a year, and unfortunately, the response rate has been quite poor," shared one library staff member.

Another respondent added,

"It's difficult to get students to participate in the surveys, even though we try to make them as accessible as possible."

The infrequent nature of those surveys, combined with low response rates, indicated a gap in the library's ability to capture comprehensive and representative feedback from users. This finding aligned with the research of Egberongbe (2020) which also noted that infrequent surveys conducted in university libraries often yielded low response rates. The lack of regular and structured feedback mechanisms limited the library's ability to assess user satisfaction and make informed improvements to its services to enhance engagement with library resources and services.

4.8 Use of information literacy programs as a strategy to enhance user engagement

The third objective aimed to examine the use of information literacy programs as a strategy to enhance user engagement. Respondents rated the effectiveness of statements regarding

information literacy programs in enhancing engagement with the university library on a scale ranging from not effective (1), slightly effective (2), moderately effective (3), effective (4) and highly effective (5) The results can be found in Table 4.10

Table 4.10

Effectiveness of information literacy programs in enhancing engagement

Statement on effectiveness of information literacy programs in enhancing engagement	Not Effective		Slightly effective		Moderately effective		Effective		High effective		M	SD
	f	%	f	%	f	%	f	%	f	%		
Information literacy programs help me develop research skills necessary for accessing and utilizing library resources effectively.	15	2.5%	154	25.7%	106	17.7%	237	39.5%	88	14.7%	3.35	0.99
Participation in information literacy sessions enhances my ability to critically evaluate information sources and materials.	13	2.2%	156	26.0%	236	39.3%	129	21.5%	66	11.0%	3.13	0.99
Information literacy programs increase my confidence to navigate library databases and online resources.	36	6.0%	22	3.7%	117	19.5%	291	48.5%	134	22.3%	3.78	1.02
Acquiring information literacy skills through library programs has increased my utilization of library print materials	10	1.7%	93	15.5%	281	46.8%	110	18.3%	106	17.7%	3.38	1.09
Information literacy programs has equipped me with effective search strategies to find relevant materials efficiently within library's collection	7	1.2%	216	36.0%	137	22.8%	172	28.7%	68	11.3%	3.13	1.06
Participation in information literacy sessions has increased use of citation tools and subscribed reference management software to organize my research materials	20	3.3%	133	22.2%	153	25.5%	226	37.7%	68	11.3%	3.32	1.04

Based on the findings in Table 4.10, the majority of respondents 291 (48.5%) participants stated that the information literacy programs boosted their confidence in using library databases and online resources. Additionally, 134 respondents (22.3%) highlighted that the programs significantly enhanced their confidence in utilizing library databases and online resources. However, 216 (36.0%) of the respondents stated that information literacy programs had not equipped them with effective search strategies to find relevant materials efficiently within the university library collection.

The findings show that the information literacy programs played key role in boosting student's skills in navigating library databases. This was contrary to Nyarigoti (2020) findings that under-graduate students were not able to use the online databases despite periodic information literacy sessions. However, the findings also show that information literacy programs did not equip students with effective search strategies to find relevant materials efficiently. This are similar findings to Mohammed and Haliru (2019) that students did not know how to use effective search techniques.

Interview results from the library staff revealed that the university libraries offered a wide range of information literacy programs aimed at addressing the diverse needs of their user demographics. These programs covered various topics, including library orientation sessions (mentioned by all 18 respondents), e-resources training (12 respondents), referencing and citation workshops (10 respondents), research skills workshops (6 respondents), and the evaluation of information (4 respondents). for example, one respondent explained, *"We offer sessions on everything from e-resources*

and citation workshops to research skills, so users can engage with our resources effectively."

The variety of information literacy programs indicated a targeted approach to equipping library users with the skills necessary to engage effectively with both digital and physical resources. These programs not only covered introductory topics like library orientation but also delved into more specialized areas such as referencing, research, and evaluating information. This holistic approach ensured that users from different academic levels and disciplines were well-supported. The findings aligned with the observations of were, (2019) who noted that information literacy courses significantly improved users' abilities to access databases, evaluate information sources, and apply proper referencing techniques.

When further probed about the impact of these information literacy programs, 15 participants reported that they had significantly increased the use of library resources. Several respondents noted increases in the usage of e-books and overall engagement with library resources. One participant stated,

> *"We've seen a marked increase in the use of e-books since the information literacy programs were introduced."*

Another added,

> *"Students are using more resources in the library after attending workshops on research skills and referencing."*

These responses suggest that information literacy programs are not only informative but also transformative in terms of user behaviour. By teaching users how to navigate digital

platforms and utilize academic resources more effectively, the programs directly contribute to a higher level of engagement with the library's offerings. This finding indicates that information literacy programs had a positive impact on user engagement in the university library. This is contrary to Nyarigoti (2020) findings, which suggested that students' use of the library and its resources was low despite information literacy programs being conducted by library staff.

4.9 Social Media Strategies That Enhance User Engagement

The fourth objective aimed to analyze social media strategies to enhance user engagement in Meru County University Libraries. Respondents rated the effectiveness of the university library's social media strategies in enhancing their engagement with the university library on a scale ranging from not effective (1), slightly effective (2), moderately effective (3), effective (4) and highly effective (5) The results can be found in Table 4.11

Table 4.11

Effectiveness of the social media strategies

Statements on effectiveness of the social media strategies	Not Effective		Slightly effective		Moderately effective		Effective		High effective		M	SD
	F	%	F	%	F	%	F	%	F	%		
Social media platforms help me discover new library resources and services.	26	4.3%	152	25.3%	213	35.5%	94	15.7%	115	19.2%	3.20	1.15
Interacting with the library on social media encourages me to visit the library in person.	28	4.7%	109	18.2%	136	22.7%	267	44.5%	60	10.0%	3.37	1.04
Social media contests and giveaways motivate me to engage with library content.	94	15.7%	135	22.5%	215	35.8%	105	17.5%	51	8.5%	2.81	1.15
The library's social media presence makes me feel more connected to the library community.	22	3.7%	92	15.3%	126	21.0%	302	50.3%	58	9.7%	3.47	0.985
Social media polls and surveys provide opportunities for me to provide feedback to the library.	25	4.2%	250	41.7%	130	21.7%	135	22.5%	60	10.0%	2.93	1.09
Social media campaigns encourage me to participate in library events and workshops.	30	5.0%	127	21.2%	75	12.5%	223	37.2%	145	24.2%	3.54	1.21
Library staff are responsive to inquiries and comments made on social media platforms.	81	13.5%	258	43.0%	78	13.0%	121	20.2%	62	10.3%	2.71	1.23
Social media platforms provide a convenient way for me to ask questions and seek assistance from the library.	15	2.5%	68	11.3%	194	32.3%	146	24.3%	177	29.5%	3.67	1.09

According to the results in Table 4.11, the majority of respondents 177, (29.5%) agreed with the high effectiveness of social media platforms providing a convenient way for them to ask questions and seek assistance from the library. Additionally, 145 (24.2%) agreed with the high effectiveness of social media campaigns encouraging them to participate in library events and workshops.

The results from the students show that social media platforms provided a convenient way for them to ask questions and seek assistance from the library. Further, social media campaigns encourage students to participate in library events and workshops. The findings align with those reported by Gitonga et al. (2023) demonstrating that university libraries have employed social media platforms to enable library users to ask questions and receive prompt responses.

However, 258 (43.0%) of participants show that library staff were unresponsive to their inquiries and comments made on social media platforms. Additionally, 250 (41.7%) of participants noted social media polls and surveys were not effective in soliciting their feedback. The results indicate that library staff did not respond to inquiries and comments on social media platforms. Furthermore, social media polls and surveys failed to allow students to give feedback to the library. The research findings back up Taylor and Francis (2014) claim that libraries that do not promptly address user queries can come across as disconnected and unapproachable. Furthermore, the findings support Boateng and Liu (2014) discovery that many users feel restricted by limited response choices and instead prefer more open-ended formats for giving feedback.

The interview results indicated that various social media platforms were used by the university library to engage users. All 18 (100%) participants mentioned that Facebook and WhatsApp were the primary platforms used for engagement. Additionally, 9 participants (44%) noted that they also used YouTube, and another 9 (44%) mentioned Twitter. One library staff member explained, *"We primarily use Facebook and WhatsApp because they are the most popular among students, but we also maintain YouTube and Twitter accounts."*

The widespread use of Facebook and WhatsApp suggests that the library staff are focusing on platforms with the highest user engagement in the local context. Facebook's diverse features, such as groups, events, and posts, along with WhatsApp's direct messaging, may provide accessible ways to reach students. However, the lower usage of YouTube and Twitter indicates that these platforms may not be as central to the library's engagement strategy, potentially missing out on opportunities to connect with students who prefer video content (YouTube) or more concise communication (Twitter).

When probed about whether specific social media posts had been successful in increasing user engagement, only two participants identified educational and informative posts as effective. The remaining staff did not observe any posts that they believed had significantly increased engagement. One staff member shared,

> *"Educational posts, such as tutorials on how to use library resources, tend to get more engagement from students."*

On further probing about the measures used to assess the effectiveness of social media platforms in driving interaction with library resources, only 4 of the staff mentioned using

engagement metrics (e.g., likes, shares, comments, or post reach). The rest of the participants noted that they were unaware of any formal measures of effectiveness. For example, one respondent stated,

> *"We look at likes and comments as engagement metrics, but there's no formal system for measuring how well our social media posts are performing."*

The results from library staff indicated there were various social media platforms used in engaging library users however the library staff were not aware of posts that would be successful in enhancing user engagement with library services. Further the results show library staff were not aware of ways to measure the effectiveness of social media engagement in driving user interaction with library resources and services. The study findings are in line with those presented by Duong (2023) who stated that librarians were unaware of the appropriate quality of content to use on social media platforms to attract engagement.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study aimed to analyze strategies for enhancing user engagement in university libraries in Meru County. The specific objectives included evaluating digital resource accessibility, assessing user survey mechanisms, examining the use of information literacy programs, and analyzing social media strategies to enhance user engagement. The study employed a descriptive survey research design and gathered data through questionnaires distributed to undergraduate and postgraduate students. In addition, it confidently involved conducting interviews with library staff from the two universities in Meru County. The study employed stratified, random, and purposive sampling methods. Qualitative and quantitative data were obtained through structured interviews and questionnaires. Thematic analysis was used for qualitative data, while descriptive statistics were used for quantitative data.

5.2 Summary of Key Findings

The study focused on analyzing strategies to increase user engagement in university libraries in Meru County. This part has been split into sections that match the research objectives. This is done to help make understanding each objective and its findings easier.

5.2.1 Summary of response rate

The study achieved high response rates across different respondent groups. For the undergraduate students, 434 individuals were sampled, with 410 responding to the survey, resulting in a response rate of 94.5%. The undergraduates were from various academic disciplines and years of study. The postgraduate students, 267 in total, had 190 respondents,

leading to a response rate of 71.1%. This group consisted of master's and doctoral students from diverse fields. Among the library staff, 18 out of the 25 surveyed members responded, resulting in a response rate of 72%.

5.2.2 Background information of respondents.

The gender distribution among undergraduate students was relatively balanced, with a slight majority being male. Specifically, 206 male students constituted 50.2% of the undergraduate population, while 204 female students made up 49.7%. In terms of academic year distribution, the majority of undergraduate participants were second-year students, numbering 192 and accounting for 46.8% of the total. This was followed by third-year students, who comprised 123 participants (30.0%). Fourth-year and above students numbered 61 (14.9%), while first-year students were the fewest, with 34 participants (8.3%). These findings suggest that second and third-year students are the most active users of library resources, in contrast to first and fourth-year students who utilize these resources less frequently.

Among postgraduate participants, males also formed the majority. There were 105 male students, representing 55.3% of the postgraduate cohort, while 85 female students accounted for 44.7%. Most postgraduate participants were second-year students, with 137 individuals making up 72.1% of this group. First-year postgraduate students numbered 53, representing 27.9%. The library staff's work experience varied, with significant portions having extensive experience. Specifically, 38.9% of the staff had over 10 years of experience, and an equal percentage had between 5 and 10 years of experience. Meanwhile, 22.2% of the staff had less than 5 years of experience.

5.2.3 Digital resource accessibility as a strategy to enhance user engagement

The study's first objective was to evaluate digital resource accessibility as a strategy to enhance user engagement in Meru County University Libraries. The results revealed that majority of students effectively engage with online databases and online public access catalogues. Additionally, the majority of students found ease in accessing digital resources provided by the university library. Findings revealed that most students use digital resources due to ease of access and skills in navigating online databases and catalogues.

However, results revealed that many students experienced difficulties in effectively using e-journals and institutional repositories, and the quality of digital resources did not meet their academic needs. Furthermore, the user interface of digital platforms presented challenges for student engagement.

5.2.4 Assessment of user survey mechanisms to enhance user engagement

The second objective of the study was to assess user survey mechanisms to enhance user engagement. Most respondents agreed with the effectiveness of survey questions being clear and relevant to capture users' needs and areas of improvement. Most library staff reported using different survey mechanisms, that is, online surveys, customer feedback, and a complaint register to gather feedback. However, the surveys were found to be ineffective as they failed to meet the users' needs despite being conducted. Additionally, they were only carried out sporadically and resulting in a poor response rate.

5.2.5 Information literacy programs as a strategy to enhance user engagement

The third objective aimed to examine the use of information literacy programs as a strategy to enhance user engagement. The findings show that the information literacy programs played a key role in boosting student's skills in navigating library databases. The research findings revealed that a variety of programs are available to enhance the skills of library users in engaging with library resources. These programs included library orientation sessions designed to familiarize users with library services and facilities, e-resources training aimed at improving digital information literacy, referencing and citations workshops focused on proper academic citation practices. The majority of library staff members stated that the implementation of information literacy programs resulted in a substantial increase in the usage of library resources.

On the other hand, the results also revealed that although there are information literacy programs in place, they have not adequately equipped students with the necessary search strategies to efficiently locate relevant materials in the library

5.2.6 Social media strategies as a strategy to enhance user engagement

The fourth objective aimed to analyze social media strategies as a strategy to enhance user engagement. The results revealed that social media platforms provided a convenient way for them to ask questions and seek assistance from the library. The library staff clearly stated that they used various social media platforms to engage users, with the majority mentioning Facebook and WhatsApp as widely utilized platforms.

However, the study revealed that the majority of students felt that library staff were unresponsive to inquiries and comments on social media platforms. In addition, social media

polls and surveys did not provide students with the opportunity to give feedback to the library. The findings also uncovered that library staff were unaware of methods to measure the effectiveness of social media engagement in driving user interaction with library resources and services.

5.2.7 User engagement in Meru County university libraries

The study aimed to explore the various ways students engage with library resources and services. The results revealed a significant level of engagement among students with the expertise provided by library staff. The study also uncovered extensive use of the library's online databases and electronic resources by students for research purposes. In contrast to the high engagement with library staff and digital resources, the study found that participation in library-sponsored events and activities was relatively low. Furthermore, a majority of the students reported that they never participated in these events. The study further revealed limited engagement with the library’s social media accounts among students. Additionally, results revealed that attendance at information literacy sessions offered by the library was low.

5.3 Conclusion

The study conclusions are outlined below in accordance with the objectives.

5.3.1 Digital resource accessibility as a strategy to enhance user engagement

Based on the findings of the study, the study established students typically find it easy to access and utilize online databases and online public access catalogue, which suggests effective engagement with these digital resources. However, there were significant issues with e-journals and institutional repositories, as they failed to meet students' academic needs

and presented usability challenges. Moreover, user interface issues impeded effective engagement with digital platforms.

5.3.2 Assessment of user survey mechanisms to enhance user engagement

Based on the findings of this study, the study established that the current survey methods employed by university libraries, that is, online surveys, customer feedback mechanisms, and complaint registers were inadequate for effectively capturing and addressing user needs. The data analysis indicated that these methods suffered from irregular administration and low response rates. Consequently, this inconsistency impeded the libraries' ability to develop a comprehensive understanding of user needs. Moreover, the low response rates resulted in a limited amount of feedback, which may not accurately reflect the full spectrum of users' experiences. As such, these methods were insufficient in capturing the diverse range of user concerns and needs, thereby impeding the implementation of meaningful changes and improvements within the libraries.

5.3.3 Information literacy programs as a strategy to enhance user engagement

Based on the findings of the study, the study established information literacy programs have positively impacted students' ability to navigate library databases and resources, contributing to increased resource usage. However, these programs did not sufficiently address the development of effective search strategies, which remains a challenge for students. To maximize the benefits of information literacy initiatives, the programs should be enhanced to include more comprehensive training on search techniques and strategies, ensuring students can more efficiently locate relevant materials.

5.3.4 Social media strategies as a strategy to enhance user engagement

Based on the findings of the study, the study established social media platforms offer a convenient channel for students to seek library assistance and engage with library services. However, the effectiveness of this engagement is compromised by staff unresponsiveness and the lack of meaningful feedback opportunities through social media polls and surveys. Additionally, there is a lack of understanding regarding how to measure the impact of social media interactions. The study recommends that university libraries should enhance staff responsiveness, develop better feedback mechanisms, and establish metrics to assess the effectiveness of social media strategies in driving user interaction with library resources**.**

5.3.5 User engagement in Meru County university libraries

Based on the findings of the study, the study established that there is a significant level of engagement between students and library staff. Students frequently seek the assistance of library staff for research and locating resources, indicating the crucial role that personalized support plays in their academic success. This finding suggests that maintaining and possibly increasing the availability of knowledgeable library staff is essential for sustaining high levels of student engagement. Also, the study established that the extensive use of online databases and electronic resources by students underscores the importance of digital resources in contemporary academic research.

In contrast to the high levels of engagement with library staff and digital resources, the study established that participation in library-sponsored events and activities was relatively low. This low participation rate indicates a potential disconnect between the events offered by the library and the interests or schedules of the students. It suggests that the library needs to

reassess its event planning and promotion strategies to better align with student preferences and increase attendance. Moreover, the study reveals limited engagement with the library's social media accounts. This suggests that the university libraries current social media strategy may not be effectively reaching or engaging the student population. Enhancing the library's social media presence could serve as a valuable tool for increasing awareness of library services, resources, and events. Lastly, the study establishes poor attendance at information literacy sessions. Information literacy is critical for students to effectively navigate and utilize library resources, yet the low attendance indicates that these sessions may not be adequately promoted or perceived as valuable by the students.

5.4 Recommendations

In light of the aforementioned conclusions, the study has put forward several recommendations corresponding to each research objective.

5.4.1. Enhancing Digital Resource Accessibility

The quality of digital resources, particularly e-journals and institutional repositories, needs significant improvement. The study recommends that university libraries should conduct a thorough review of these resources to ensure they meet the academic needs of students. Additionally, collaborating with publishers or vendors may help upgrade the quality and relevance of these materials. Also, addressing the challenges presented by the user interfaces of digital platforms is crucial. Investing in redesigning these interfaces to improve usability will help overcome the existing barriers. This can be achieved through improvements in user experience design and technical support. Also, providing students with training and resources to navigate complex platforms more effectively can further enhance their 0engagement with digital resources.

5.4.2. Improving User Survey Mechanisms

The study recommends that the libraries should implement surveys on a more regular basis, such as quarterly or bi-annually, rather than sporadically to better capture and address users' needs. Using different types of surveys, including short pulse surveys and detailed annual surveys, can provide a more comprehensive understanding of user experiences. To increase response rates, the study recommends the university libraries might offer incentives, such as gift cards or library credits, and actively promote surveys through various channels like email, social media, and in-library posters. Further, the study recommends that university libraries develop and implement action plans that will ensure that user feedback leads to meaningful changes and, also communicate these changes back to users to demonstrate that their input is valued and acted upon.

5.4.3 Enhancing Information Literacy Programs

The current information literacy programs have positively impacted students' abilities to navigate library resources, but there is room for improvement. The study recommends, that the libraries should incorporate more detailed training on advanced search techniques into these programs. Additionally, the study recommends, that offering targeted workshops that focus on specific research needs or disciplines will provide students with more relevant skills, expanding program offerings to include online tutorials and resources accessible on-demand can complement in-person training. Additionally, implementing peer mentorship or tutoring programs where experienced students assist others can further enhance information literacy. Further, regular assessment of these programs, based on participant feedback and usage metrics, will help in updating and improving the training materials and methods to better meet student needs.

5.4.4 Optimizing Social Media Strategies

Social media platforms are a valuable tool for engaging with students, but there are several areas for improvement. The study recommends the libraries should establish clear protocols for timely replies to inquiries and comments on social media. Training library staff on best practices for social media engagement and handling inquiries efficiently will improve interactions with users. Enhancing feedback mechanisms is also important. The study recommends libraries should utilize social media tools and features, such as polls and feedback forms, to gather more actionable user feedback. Regularly soliciting and acting on this feedback will demonstrate the library's commitment to addressing user concerns. The study recommends using social media analytics tools to track engagement metrics and user satisfaction, helping measure the effectiveness of social media strategies.

5.4.5 Enhancing user engagement

To sustain and enhance this engagement, it is recommended that university libraries maintain a sufficient number of knowledgeable library staff. Additionally, increasing the availability of staff during peak hours and offering specialized training can further improve the quality of assistance provided to students. The study recommends that university libraries in Meru County should reassess event planning and promotion strategies. This can involve surveys or focus groups to gather student feedback, diversifying event types, and promoting events through social media, campus newsletters, and academic departments. The study further recommends university libraries also need to enhance their social media presence, create engaging content, and collaborate with student organizations and influencers. Additionally, the study recommends that university libraries should better promote the value of information literacy sessions and integrate them into the academic

curriculum and, additionally offering incentives for attendance and using multiple promotional channels can raise awareness and interest**.**

5.5 Implication of the Findings on Theories, Practices and Policies

This study is based on the flow theory that users experience optimal engagement and satisfaction when they are deeply immersed in an activity that challenges their skills and is aligned with their goals. The study supported the assumptions of this theory because library users, achieving a flow state means that they can seamlessly access and utilize resources in a way that fully engages their attention and abilities. The study established difficulties students face with e-journals and institutional repositories indicate that these resources may not provide the optimal challenge or ease of use required to maintain flow. Issues with user interface design further disrupt the user experience, preventing students from achieving a state of flow.

The study was also based on information interaction theory which focuses on the dynamic process of how individuals interact with information and the environment, emphasizing the relationship between the user, the information, and the context. The study established ineffective surveys and low response rates highlight a disconnect between users' information needs and the library's understanding of those needs. Further, issues with responsiveness and feedback collection suggest that the current methods are not fully facilitating effective information interaction. The issues with staff unresponsiveness and ineffective feedback mechanisms suggest that the library's social media integration is not fully optimized. The study underscores that while social media platforms offer a convenient means for students to interact with the library, the current approach lacks effective engagement strategies.

The research findings have significant implications for shaping policies and guiding decision-making processes in university libraries. University libraries need to create and implement guidelines for designing and evaluating digital platforms, focusing on user-friendly interfaces, simple navigation, and effective search functions. They should also establish policies for collecting user feedback through surveys at regular intervals, using diverse and accessible feedback mechanisms. Additionally, they can expand library information literacy programs to include advanced search techniques and critical evaluation skills, making sure these programs are part of the academic curriculum and supported by institutional policies. Lastly, formulating and implementing a comprehensive social media strategy with guidelines for timely and effective responses to user inquiries and feedback is essential, along with establishing policies for measuring and evaluating the effectiveness of social media interactions, and setting clear objectives and performance metrics.

5.6 Suggestions for further research

Based on the current research, there are several important areas for further investigation. Firstly, exploring user interface design improvements for digital resources is essential. This includes examining how design elements impact user experience and engagement, aiming to develop best practices for user-friendly digital platforms. Additionally, evaluating the quality of digital resources and their alignment with academic needs is crucial. Improving feedback mechanisms is another important area. Alternative feedback mechanisms, such as real-time feedback systems, and strategies to increase survey participation should be explored. Further investigation into the impact of information literacy programs is needed. Research could focus on identifying the most beneficial components of these programs and their long-term effects on academic performance and research effectiveness. Lastly, a

comprehensive analysis of the impact of social media on library services is essential. Assessing different social media engagement strategies and integrating social media into the broader library communication framework could enhance overall user engagement. Addressing these areas through future research could contribute to a better understanding of university library services and support the development of strategies to better meet the needs of students and faculty

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APPENDICES

Appendix I: Informed Consent cover letter:

Mr. Martin Mutuma,

Kenya Methodist University,

P.O. Box 267 – 60200.

Meru.

Dear respondent,

I am writing to request consent to participate in my study, which will help me to actualize my academic research titled: ***Analysis of Strategies for Enhancing User Engagement in University Libraries in Meru County.*** This study aims to investigate the effectiveness of various strategies implemented to enhance user engagement in university libraries in Meru County. Your participation in this study will provide valuable insights into the factors influencing user engagement in library services and contribute to the improvement of library resources and services in the county. Note the following,

i. **Procedures to be Followed**: Participation in the study involves completing a survey/questionnaire and/or participating in an interview session. The survey/questionnaire will consist of questions related to your experiences, perceptions, and opinions regarding library services and user engagement. The interview session, if applicable, will involve a one-on-one discussion, lasting 30 minutes with the researcher to further explore your thoughts and experiences in greater detail.

ii. **Discomforts and Risks:** Participation in this study involves no risks or discomforts. However, you may experience mild discomfort due to the nature of some survey questions or interview topics. If at any point during the study, you feel uncomfortable or wish to withdraw your participation, you may do so without any negative consequences.

iii. **Benefits:** By participating in this study, you will contribute valuable information that can help improve library services and user engagement strategies in Meru County University libraries. Your insights and opinions will directly inform the

development of strategies aimed at enhancing user engagement and overall library experience.

iv. **Rewards**: Please note that participation in this study is voluntary and no rewards or incentives will be provided for your involvement.

v. **Confidentiality**: All information collected during the study will be kept confidential and will only be accessible to the researcher. Your identity will be anonymized, and any personal identifiers will be removed from the data to ensure confidentiality. Data will be stored securely and will only be used for research purposes

vi. Contact Information: If you have any questions about your participation, please feel free to contact me at.: mmutuma0250@stu.kemu.ac.ke. You may also contact my research supervisor at paul.maku@kemu.ac.ke

As the investigator, I assure you that your participation in this study will be kept confidential and your privacy will be protected. I will ensure that your rights as a participant are respected throughout the study. If you have any questions or concerns about the study, please feel free to contact me.

Yours sincerely,

Martin Mutuma.
Phone: 0713816445.
School of Science and Technology.

Appendix II: Questionnaire for Undergraduate and Postgraduate Students

INSTRUCTIONS: When filling out the questionnaire, please do not include your name. Answer truthfully by ticking (√) or filling in the provided blank spaces.

Section A: Demographic Information

Please indicate the following

1. What is your gender?
   Male ☐ Female ☐

2. What is your academic status?
   a) Undergraduate Student ☐
   b) Graduate student ☐
   c) Other (Please specify)……..

3. What is your year of study?
   a) First-year ☐
   b) Second year ☐
   c) Third year ☐
   d) Fourth year or above ☐
   e) Graduate student ☐

Section B: User Engagement in University Libraries

4. Please rate the following statements based on how frequently you engage with the resources and services provided by the university library.

Statements based on frequency engage with the university library	Never	Rarely	Occasionally	Often	Always
g) I visit the library to borrow books or other materials.					
h) I use the library's online databases or electronic resources for research purposes.					
i) I attend information literacy sessions offered by the library.					
j) I seek assistance from library staff when conducting research or locating resources.					
k) I participate in library-sponsored events or activities.					
l) I follow the library's social media accounts for updates and announcements					

Section C: Digital resources accessibility to enhance user engagement in university library

5. How effectively do you engage with the following digital resources provided by the university library where Not effectively = 1, Slightly effectively = 2, Moderately effectively = 3, Effectively = 4, Highly effectively = 5.

Digital Resources	**1**	**2**	**3**	**4**	**5**
E-journals					
E-books					
Institutional Repository					
Online databases					
Online Public Access Catalogue					

6. How would you rate the accessibility of digital resources provided by the library?
   Excellent ☐ Good ☐ Fair ☐ Poor ☐

7. Please rate the following statements regarding the effectiveness of digital resource accessibility strategies in enhancing your engagement with the university library, where Not effective = 1, Slightly effective = 2, Moderately effective = 3, Effective = 4, Highly effective = 5.

Statements on effectiveness of digital resource accessibility strategies in enhancing your engagement	**1**	**2**	**3**	**4**	**5**
a) The availability of searchable databases and catalogs simplifies the process of finding relevant digital resources.					
b) The provision of user guides or tutorials for accessing and navigating digital resources facilitates my use of library materials.					
c) The user-friendly interface of the library's digital platforms enhances my overall experience when accessing resources					
d) The provision of remote assistance or troubleshooting support for accessing digital resources increases my confidence in utilizing library materials.					
e) The implementation of security measures for protecting user privacy and data security when accessing digital resources increases my trust in the library's digital infrastructure.					
f) The provision of alternative formats for digital resources (e.g., audio versions, Braille)					

increases accessibility for users with diverse needs.					
g) The availability of remote access to digital resources allows me to engage with library materials from anywhere					
h) The variety and quality of digital resources available through accessible formats meet my academic needs effectively					

Section D: User Survey Mechanisms for Enhancing User Engagement in University Libraries

8. Please rate the effectiveness of the following statements regarding user survey mechanisms in enhancing your engagement with the university library where being Not effective = 1, Slightly effective = 2, Moderately effective = 3, Effective = 4, Highly effective

Statements on effectiveness of user survey mechanisms in enhancing your engagement	**1**	**2**	**3**	**4**	**5**
a) The opportunity to provide feedback through surveys allows me to voice my opinions and suggestions regarding library services.					
b) Survey responses are taken into consideration by library staff when making improvements to resources and services.					
c) Participating in surveys makes me feel valued as a library user and encourages me to engage more with library initiatives.					
d) The survey questions are clear and relevant to my experiences with library resources and services.					
e) I have seen changes implemented in response to feedback provided through library surveys.					
f) Survey results are communicated transparently, and actions taken based on feedback are shared with library users.					
g) The survey process is convenient and accessible, allowing me to provide feedback at my convenience.					
h) The library actively seeks input from users through a variety of survey methods (e.g., online surveys, focus groups).					

Section E: Use of information literacy programs to enhance user engagement in the university library

9. Please rate the effectiveness of the following statements regarding information literacy programs in enhancing your engagement with the university library where being Not effective = 1, Slightly effective = 2, Moderately effective = 3, Effective = 4, Highly effective

Statements on effectiveness of information literacy programs in enhancing user engagement	**1**	**2**	**3**	**4**	**5**
a) Information literacy programs help me develop research skills necessary for accessing and utilizing library resources effectively.					
b) Participation in information literacy sessions enhances my ability to critically evaluate information sources and materials.					
c) Information literacy programs increase my confidence to navigate library databases and online resources.					
d) Acquiring information literacy skills through library programs has increased my utilization of library print materials					
e) Information literacy programs has equipped me with effective search strategies to find relevant materials efficiently within library's collection					
f) Participation in information literacy sessions has increased use of citation tools and subscribed reference management software to organize my research materials					

Section F: Library use of social media strategies in enhancing user engagement

12. Please rate the effectiveness of university's library social media strategies in enhancing your engagement with: 1 = Not Effective, 2 = Slightly Effective, 3 = Moderately Effective, 4 = Effective, 5 = Highly Effective

Statements on effectiveness of social media strategies in enhancing your engagement	**1**	**2**	**3**	**4**	**5**
a. Social media platforms help me discover new library resources and services.					
b. Interacting with the library on social media encourages me to visit the library in person.					

c. Social media contests and giveaways motivate me to engage with library content.					
d. The library's social media presence makes me feel more connected to the library community.					
e. Social media polls and surveys provide opportunities for me to provide feedback to the library.					
f. Social media campaigns encourage me to participate in library events and workshops.					
g. Library staff are responsive to inquiries and comments made on social media platforms.					
h. Social media platforms provide a convenient way for me to ask questions and seek assistance from the library.					

Your cooperation and time are greatly appreciated. Thank you

Appendix III: Interview Guide for the Library Staff

Section A: Background Information

Please indicate the following

1. Your position/designation in the library……..
2. How long have you worked in the library?
   - i. Less than 5 years ☐
   - ii. 5 years but below 10 years ☐
   - iii. 10 years and above ☐

Section B: User Engagement in University Libraries

1. How do you know if students are actively participating and using library resources and services?

2. What methods do you use to gather feedback from students about their experiences in the library?

3. Can you share any specific activities or events that have been particularly successful in getting students involved with the library?

Section C: Digital resource accessibility as a strategy for enhancing user engagement

1. Which digital resources are available for library users?

2. What measures have been taken to ensure that digital resources are easily accessible to all users, including those with disabilities?

3. Can you provide examples of how digital resources have increased user engagement within the library?

Section D: User Survey Mechanisms for Enhancing User Engagement in University Libraries

1. What methods are currently being used to gather feedback from library users?

2. In what ways have the results of user surveys been utilized to improve user engagement within the library?

Section E: University Libraries Use of Information Literacy Programs to Enhance User Engagement

1. What information literacy programs are currently offered to library users?

2. Can you provide examples of how participation in information literacy programs has positively impacted user engagement with library services?

Section F: Libraries' Use of Social Media to Enhance User Engagement

1. What social media platforms does the library currently utilize to engage with users?

2. Are there any specific social media posts that have been particularly successful in increasing user engagement

3. How do you measure the effectiveness of social media engagement in driving user interaction with library resources and services?

Appendix IV: KeMU's Introduction Letter from the Director of Postgraduate to NACOSTI

KENYA METHODIST UNIVERSITY
P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171
Fax: 254-64-30162
Email: deanrd@kemu.ac.ke
DIRECTORATE OF POSTGRADUATE STUDIES

Our Ref: KeMU/NACOSTI/ISK/03/2024 June 24, 2024

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100
NAIROBI.

Dear Sir/Madam,

RE: MARTIN MUTHOMI MUTUMA – (REG. NO. ISK-3-0250-2/2021)

This is to confirm that the above named person is a bona fide student of Kenya Methodist University, in the School of Science and Technology, Department of Information Science undertaking a Master's Degree in Information Science. He is conducting research on: **"Analysis of Strategies for Enhancing User Engagement in University Libraries in Meru County"**.

We confirm that his research proposal has been presented and approved by the University.

In this regard, we are requesting your office to issue a research license to enable him collect data.

Any assistance accorded to him will be appreciated.

Yours sincerely,

24 JUN 2024

Dr. John M. Muchiri (PhD)
Dean, Postgraduate Studies
Cc: Dean, SST
CoD, IS
Postgraduate Coordinator - IS
Supervisors

Appendix V: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **158676**

Date of Issue: **31/July/2024**

RESEARCH LICENSE

This is to Certify that Mr.. Martin Muthomi Muthomi of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Meru on the topic: ANALYSIS OF STRATEGIES FOR ENHANCING USER ENGAGEMENT IN UNIVERSITY LIBRARIES IN MERU COUNTY for the period ending : 31/July/2025.

License No: **NACOSTI/P/24/38475**

158676

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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