

## Digital Resources Accessibility as A Strategy for Enhancing User Engagement in University Libraries in Meru County

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### Abstract

**Purpose:** The engagement of users in university libraries is defined by the interactions between students, faculty, and staff with library resources, services, and facilities. Digital resource accessibility serves as a critical strategy to enhance user engagement in university libraries by removing barriers to access and facilitating remote access. The study investigated the challenges and opportunities of enhancing user engagement in university libraries through digital resource accessibility, focusing on Meru County, Kenya. The research aimed to evaluate the effectiveness of digital resource accessibility as a strategy to increase user engagement in Meru County's universities.

**Methodology:** The study adopted a descriptive survey research design, targeting 13,000 undergraduate students, 665 postgraduate students, and 25 library staff from Meru University and Kenya Methodist University. A sample of 716 participants was selected using stratified and simple random sampling for students, and purposive sampling for library staff. Data was collected via questionnaires and interviews, with qualitative data analyzed thematically and quantitative data processed using SPSS to generate descriptive statistics.

**Results:** The findings revealed that while students generally engaged well with online databases and public access catalogues, they struggled with e-journals and institutional repositories due to usability challenges and the poor quality of digital resources. These issues hindered effective engagement, as the resources also often failed to meet academic needs.

**Conclusion:** The study concludes that improving the quality and user-friendliness of digital platforms is critical for enhancing user engagement. It recommends that university libraries in Meru County collaborate with publishers to improve digital resource quality and provide students with targeted training to navigate digital platforms more effectively. This study contributes to the field by offering actionable insights into how universities can optimize digital resource accessibility to boost user engagement, thus providing a valuable framework for libraries in similar educational contexts.

**Keywords:** *User Engagement, Digital resources, Strategies, University Libraries*

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## 1.0 Introduction

User engagement in university libraries involves the intricate interactions among students, faculty, and library resources, with a focus on active participation in physical and digital spaces. Globally, universities consider user engagement essential for vibrant academic communities. For instance, Samford University in the U.S. and institutions in the UK, such as Hull and Liverpool John Moores, have started to revamp their outreach strategies to prioritize user engagement by developing a strategy for engaging students and faculty with the guidance of the Association of College and Research Libraries framework for engagement (Cooper and Day, 2023).

University libraries in Ghana and Nigeria have traditionally played a vital role in supporting academic research, teaching, and learning. However, the evolving needs of users in the digital age have necessitated a shift in how these libraries engage with their users thereby improving service delivery and academic outcomes. (Dada & Eghworo, 2020; Dadzie et al. 2022). The Commission for University Education in Kenya underscores the importance of engaging users to ensure the effective delivery of library services (Commission for University Education, 2014).

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. The increasing reliance on digital resources in university libraries has prompted a surge in studies examining their utilization and effectiveness. Panda and Kaur, (2023) reported that digital libraries that integrated artificial intelligence, natural language processing, virtual reality, and machine language algorithms significantly improved digital library search functionality, thus enhancing engagement with digital resources.

Ubogu (2020) highlighted the benefits of electronic resources in South Nigerian university libraries, noting their accessibility, up-to-date content, and ease of use. Similarly, Fingillah and Aliero (2023) reported effective user interaction with digital resources at Kebbi University, facilitated by advanced technological infrastructure. In Kenya, the Commission for University Education mandates subscriptions to digital resources, aiming to enhance library engagement (Memusi & Khamadi, 2022).

Despite these advancements, challenges persist, including inadequate training (Kansal & Khan, 2023), poor maintenance (Dada & Eghworo, 2020), and infrastructure issues (Buruga et al., 2023; Tenya et al., 2023). Recent findings also highlight problems such as low user awareness and limited digital resource personalization (Chilimo & Haikuti, 2022). This study aims to delve into these issues and explore how improving digital resource accessibility can ultimately enhance user engagement in Meru County University libraries, addressing gaps identified in existing research and providing localized insight

### 1.1 Problem Statement

User engagement in university libraries is crucial, as it directly impacts the library's role in supporting academic success, fostering research excellence, and creating a vibrant learning environment (Appleton, 2020). Despite significant investments in digital collections aimed at providing convenient, anytime, anywhere access (Schlak, 2017), many libraries face challenges in user engagement. Users often report difficulties with navigating digital resources, complex access procedures, and non-intuitive interfaces, which hinder effective use (DeVillie & Sughrue, 2023). While some studies (Ateka et al., 2022; Musangi, 2019) have explored the adoption of digital resources to improve user experience, there remains a gap in understanding

how these resources can be leveraged to enhance user engagement specifically. This study aims to investigate the effectiveness of current engagement strategies and their implications for university libraries and their users, seeking to address these critical gaps.

### **1.2 Purpose of the Study**

To analyze digital resource accessibility as a strategy for enhancing user engagement in university libraries in Meru County, with a specific focus on recommending actionable best practices.

### **1.3 Research Questions**

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

## **2.0 Literature Review**

User engagement in university libraries is fundamentally driven by interactions between students, faculty, and library resources, with a significant focus on the active utilization of digital resource databases to support academic activities (Goodall, 2019). Digital resources encompass electronic data such as texts, images, sounds, and animations (Kato et al., 2021), and their accessibility plays a crucial role in enhancing user engagement and academic success. Shen, (2023) demonstrated that the Massachusetts Institute of Technology (MIT) Library achieved exceptional user engagement through innovative digital resource provisions and open-access initiatives, promoting global accessibility and fostering international collaboration. In response to the COVID-19 pandemic, libraries in Ghana adopted new strategies to boost user engagement, such as increased use of online databases to facilitate librarian-patron interactions (Dadzie et al., 2022). Similarly, universities in Kenya, including Jomo Kenyatta University of Agriculture and Technology (JKUAT) and Kenyatta University (KU), have expanded their digital collections to meet the demand for remote access (Abok & Kwanya, 2016; Kinyua & Njoroge, 2022). Musangi, (2019) further noted that Kenyan university libraries have advanced in engaging users through electronic resources and virtual reference services.

However, Kansal and Khan, (2023) found that difficulties in accessing high-demand digital resources and inadequate training hindered effective use in Indian university libraries. Dada and Eghworo, (2020) reported similar issues in Nigeria, where poor maintenance and lack of training affected student engagement. (Liasu & Bakrin, 2022) noted that at Osun State University, poor internet connectivity, power outages, and insufficient workstations limited the effective use of digital resources. In Kenya, Tenya et al., (2023) observed that despite the availability of digital resource platforms in public universities, engagement remained low due to inadequate funding for content subscriptions. The study further highlighted that poor user personalization features on these platforms further discouraged effective use. These studies by Dadzie et al., (2022), Abok and Kwanya, (2016), Musangi, (2019), Kansal and Khan, (2023), Dada and Eghworo, (2020), Liasu and Bakrin, (2022) and Tenya et al., (2023) underscores the need to explore how improving digital resource accessibility can enhance user engagement in university libraries.

### **3.0 Methodology**

The researcher adopted a survey research methodology. 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. The study

targeted the library staff, undergraduate and postgraduate students of Meru University of Science and Technology and Kenya Methodist University. The study employed stratified, random and purposive methods of sampling. The researcher calculated the required sample size of undergraduate and postgraduate students based on the formulae by Nassiuma, (2000) model. Using purposive sampling, the researcher targeted library staff who had specific roles relevant to the research objective. The sample for the study consisted of 434 undergraduate students, 267 postgraduate students and 25 library staff. The researcher used questionnaires to collect data from undergraduate and postgraduate students. The researcher conducted interviews with library staff at both Meru University and Kenya Methodist University libraries. Content validity was ensured through a review of the interview guide and questionnaire items by a panel of subject matter experts. Construct validity was guided by a clear theoretical framework that defined the key constructs and relationships under investigation.

Direct quotes and illustrative examples were used to enrich the presentation of qualitative findings. 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 study sample and main variables were summarized and described using 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.

## 4.0 Results and Discussion

### 4.1 Response rate

The sample for the study consisted of 434 undergraduate students, out of which 410 responded to the survey, resulting in a 94.5% response rate. These students were from various academic disciplines and years of study. For the postgraduates, 267 students were sampled, and 190 of them responded, giving a response rate of 71.1%. This group included master's and doctoral students from different fields. Additionally, 18 out of 25 library staff members responded to the survey, resulting in a 72% response rate.

### **Finding based on how effectively undergraduate and postgraduate students engage with digital resources provided by Meru County university libraries.**

The respondents rated the effectiveness of engaging with digital resources based on the provided statements. The results are presented in Table 1.

**Table 1: 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

The data from Table 1 shows that 157 (26.2%) of the respondents effectively used the Online Public Access Catalogue (OPAC) and 146 (24.3%) effectively engaged with online databases. These findings suggest that students were proficient in utilizing digital resources for their academic needs, indicating successful adoption and integration of these resources into their study routines. These results are consistent with Tenopir et. al, (2019) findings, which suggested that a significant number of students effectively use online databases due to their convenience and accessible information.

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

**Finding based on accessibility of digital resources provided by Meru County university libraries**

The undergraduate and postgraduate students were asked to rate the accessibility of digital resources provided by the university libraries. The findings are presented in Table 2.

**Table 2: 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 the results presented in Table 2, the majority of respondents, totaling 272 (45.3%), rated the accessibility of digital resources in university libraries as good. Additionally, 253 respondents (42.2%) assessed the accessibility as fair, while 44 respondents (7.3%) rated it as excellent. However, 31 respondents (5.2%) deemed the accessibility of digital resources as poor. These findings suggest that while a significant number of students find the digital resources provided by university libraries to be accessible, there are still barriers that need to be addressed, as evidenced by the small percentage of respondents who rated accessibility as poor. This aligns with the observations of Kato et al., (2021), who found that most students perceive digital resources as relatively accessible.

**Finding based on effectiveness of digital resource accessibility strategies as a strategy in enhancing engagement with the university library**

The study asked for respondents' opinions on the effectiveness of digital resource accessibility strategies to improve engagement with the university library. Participants were given various

statements and asked to rate their accuracy on a scale. The summarized findings are presented in Table 3.

**Table 3: 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	14.0%	122	20.3%	141	23.5%	3.19	1.307

Based on Table 3 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 catalogs. 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. Furthermore, 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.

### **Results from library staff**

In a series of interviews conducted with library staff regarding the digital resources available at the Meru County University Libraries, several key resources were identified. These resources include e-books, e-journals, online databases, an online public catalog, and an institutional repository. The staff outlined various measures implemented to enhance accessibility, such as ensuring user-friendly database platforms, incorporating text-to-speech customization, providing virtual training and tutorials on database navigation, and maintaining continuous wireless network availability.

Furthermore, staff were asked to illustrate how these digital resources have contributed to increased user engagement within the library. They reported several indicators of heightened engagement, including a surge in user queries related to access, an increase in virtual literacy sessions, and the adoption of the MyLoft mobile app to encourage more frequent library usage.

These findings suggest that the university library's provision of user-friendly digital platforms and diverse digital resources effectively promotes increased engagement. This supports the conclusions of previous studies, such as those by Fingillah and Aliero (2023), Memusi (2022), and Merande (2021), which highlight the critical role of digital resource accessibility in enhancing user engagement with library services.

### **5.0 Conclusion**

The research 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 these digital platforms.

### **6.0 Recommendations**

University libraries should conduct a comprehensive review of their digital resources to ensure that they meet the academic needs of students. Collaborating with publishers or vendors may help improve the quality and relevance of these resources. It is also important to address the

challenges posed by the user interfaces of digital platforms. Investing in redesigning these interfaces to enhance usability will help overcome existing barriers. This can be achieved through improvements in user experience design and technical support. Additionally, providing students with training and resources to navigate complex journal databases more effectively can further enhance their engagement with digital resources.

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