



## RESEARCH ARTICLE

# Towards Quality Remote Library Resources and Services in Kenyan University Libraries

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**Abstract:** University libraries in Kenya have undergone significant transformations due to exponential growth in student enrolment, the introduction of Open Distance Learning (ODL), and the impact of the COVID-19 pandemic. These changes have necessitated a shift from traditional to remote library services, leveraging technology to meet the needs of remote users. Despite these advancements, there is limited research on the quality, accessibility, and user satisfaction of remote library services in Kenyan universities. This study aims to evaluate the quality of remote library resources and services, identify challenges, and recommend strategies to enhance academic success in the digital age. The study aimed to: 1) establish the types of remote library resources and services offered in Kenyan universities, 2) assess the quality of these resources and services, and 3) identify challenges and recommend strategies for improvement. The study employed a convergent mixed-methods design, collecting data from 1,033 respondents (students, academic staff, and librarians) across eight Kenyan universities. Data were gathered through questionnaires and interviews, and analysed using SPSS version 27 and ATLAS.ti for qualitative data. The data was collected from April 2024 to December 2024. The findings revealed that 33.3% of users access remote library services occasionally, with the online catalogue/search being the most utilized service (66.9%). E-journal access (45.8%) and e-book borrowing (35.2%) were also prominent. However, user satisfaction varied, with 32.3% rating the online catalogue as "Good," while 20% rated reliability as "Very Poor." Virtual reference services were underutilized (22%), and document delivery services were used by only 15.6% of respondents. Librarians emphasized strategic leadership, budgeting, and staff training as critical to improving remote services. The study highlights the need for user-friendly remote library platforms, continuous updates to digital collections, and comprehensive user training. Addressing internet connectivity issues, enhancing technical support, and ensuring security and privacy are also crucial. Collaboration between librarians, academic staff, and students is essential for developing user-centric remote services. The findings underscore the importance of adapting library services to meet the evolving needs of remote users in the digital age.

**Keywords:** Remote Library Services; User Satisfaction; Digital Resources; University Libraries; Open Distance Learning

## 1. Introduction

University libraries have been the bedrock of academic life, housing knowledge and providing The Ministry of Education (MoE), in its national strategic plan for 2018-2022, notes that the Kenyan university sub-sector has exponential growth, with an enrolment of 251,196 in 2013 to 520,893 in 2018 (Ministry of Education, 2022). According to World Bank (2019), the growth of the number of people seeking higher education in Kenya has had a tremendous impact on existing resources and service delivery by libraries. Kamer (2022) noted that the number of enrolled students in Kenyan universities witnessed an increase from approximately 546,700 in the academic year 2020/2021 to 562,000 in the academic year 2021/2022. This is approximately 3% increase in one academic year. In addition, the introduction of Open Distance Learning in university has brought about the rise of new clients who do not physically visit the library. The strain that these improvements have had on institutions of higher learning is colossal with library services taking the most significant portion of this pressure. Additionally, University libraries have also faced a paradigm shift following the Covid-19 pandemic. Cox (2020) noted that instead of libraries returning to normal, librarians would

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be returning to a “new normal”. He further stated that in-person service provision and interactions may be difficult or no longer preferred.

To cope with this, libraries embraced new technology-based ideas and models of learning, such as online learning and virtual and blended modes of learning by offering remote library services. O'Donnell and Anderson (2021) posited that the history of remote services is proximate to the development in education in the late 20th century. Carty (1991) highlights that remote service in progressed with advances in distance learning, which began to take a higher profile in the late 1980s to the 1990s. According to Weiner (2005), remote services would later blossom with the advancement of technology in the 1970s. Cooper et al. (1998) noted that with this advancement in technology the number of remote library users expanded. Kamau et al. (2017) acknowledged that ICTs provide remote learners easy access to information and library resources. They noted that university libraries provided current awareness services, OPAC, document delivery, e-mail attachment, e-books, e-journals, and electronic course reserves and tutorials. According to Ogar and Dushu (2018) the evolution of libraries brought by technology has led to changes in the physical facilities, infrastructure, and tools used to transact libraries. Ogar and Dushu noted that Kenyan university libraries have also embraced a technology-based model as most of them have transformed from manual to digital.

University Libraries in Kenya have seen significant changes in recent years, both in terms of collection and service delivery (Makori & Mauti, 2016). This has allowed the libraries to provide a wide range of high-quality print and electronic media services to all of their users. The libraries are currently using both traditional and technology-based, with an integrated library management system such as Koha, Evergreen ILS, EOS. Web among others (Wiche, 2023). This allows users to access information at any time and from any location. It has also allowed the libraries to operate at a high degree of efficiency while providing services such as book charging and discharging remotely. Xie and Matusiak (2016) cite that university libraries' electronic resources such as photographs, artefacts, audio recordings, and textual resources are remote services offered in various formats. Most libraries make electronic literature available to their patrons through Online Public Access Catalogues (OPACs) (Khan, 2015). Despite the efforts by university libraries in Kenya, De La Porte and Higgs (2019) asserted that university libraries in developing countries face numerous barriers in the provision of quality user-centric services to remote library users.

A study by Ng'ang'a et al., (2020) on university library charter application in quality library provisional revealed that users at the library perceived the quality of services to be low. Ng'ang'a et al. (2020) noted that university libraries are expected to offer quality services to remain competitive. Similarly, Ouda-Onyango and Minishi-Majanja (2020) observed that the information needs of Moi University remote library users were not adequately met, and most of the time they were not user-centric. The paradigm shifts from traditional services to remote services necessitated a re-evaluation of library remote service delivery. This study aims to evaluate the quality of remote library resources and services available in university libraries in Kenya, with the aim of identifying current offerings, their quality, challenges, and recommend strategies to support for academic success in the digital age. The specific objectives of the study were to: establish the remote library resources and services offered at university libraries in Kenya; and assess the quality of library remote resources and services at university libraries in Kenya.

## **2. Methodology**

The research was conducted in 8 selected Universities namely: University of Nairobi, Kenyatta University, Strathmore University, Mount Kenya University, University of Kabianga, Taita Taveta University, Kenya Highlands University, and International Leadership University Kenya. The aim was to ensure diversity and representation across university types. To this end, a stratified sampling approach was employed. Kenyan universities were categorized into two distinct strata: public and private universities. Private and public universities often have distinct characteristics, funding sources, and missions, making them suitable strata for various research questions. The researcher purposefully chose the top 2 and last 2 public and private universities respectively in Kenya according to 2023 university webometrics. The rationale behind this approach was informed by the findings of Wamahiga and Kwanya (2019) who posited that university libraries through development of institutional repositories, generation of content, publication and giving access to current electronic information resources play a pivotal role in enhancing webometrics and, consequently, improving rankings. The study used a pragmatic research paradigm and convergent mixed methods design. The population of the study was 117,363 comprising of students, academic staff, and University Librarians. A combination of stratified random sampling, and purposive sampling techniques was used to obtain a sample size of 1,255 respondents. Data was collected using questionnaires and interview schedules. Quantitative data was analyzed using statistical analysis tools SPSS version 27 and Microsoft Excel while qualitative data was analyzed using thematic analysis coding using ATLAS.ti.

## **3. Findings**

### **3.1 Response Rate**

Out of 1,255 respondents targeted, 1,033 participated in this study, giving an overall response rate of 82.3%. The questionnaires' response rates among students from various universities show a good return of the questionnaire, with a combined response rate

of 611(92.3%), Academic staff response rate stands at 380(69.7%), library staff 35 (77.7%) and interviews from University Librarian 7(87.5%). Table 1 shows the study response rate.

TABLE 1: RESPONSE RATE

Respondents	Targeted	Responses	Percentages
Students	662	611	92.3%
Academic Staff	545	380	69.7%
Library Staff	45	35	77.7%
University Librarian	8	7	87.5%
<b>Total</b>	1,255	1,033	82.3%

The first objective of the study was to establish the types of remote library resources and services offered by university libraries in Kenya. To achieve this objective, the study explored several critical aspects. This included examining the frequency of use of these remote services, understanding the roles and responsibilities of University Librarians in managing these resources, and exploring how user characteristics such as age, gender, and academic status influence engagement with remote resources and services. Additionally, the study assessed user ratings and satisfaction with various remote library resources and services and analysed the relationship between user demographics and their usage patterns. Insights were also gathered from University Librarians on their perspectives regarding these resources and services.

### 3.2 Frequency of Remote Library Resources and Services Use

The study sought to establish the frequency of use of remote library resources and services by library users. The responses are presented in Table 2. Majority of the respondents, 330(33.3%), use remote library resources and services occasionally. This was followed by 257(25.9%) of the respondents who access remote library services on a weekly basis. 206(20.8%) use remote library services daily, 117(11.8%) utilize remote services monthly. A small group of 81(8.2%) respondents indicated that they have never used remote library services.

TABLE 2: FREQUENTLY REMOTE LIBRARY RESOURCES AND SERVICES

	Frequency	Percentage
Daily	206	20.8%
Monthly	117	11.8%
Never used	81	8.2%
Occasionally	330	33.3%
Weekly	257	25.9%
<b>Total</b>	991	100.0%

### 3.3 Role of University Librarian

Face-to-face interviews were held with the University Librarians to establish the role they play as the head of the libraries. Identifying the specific roles of University Librarians provided valuable insights into the types of remote resources and services they offer, while also shedding light on how various library functions support and enhance remote access and usage. When respondents were interviewed on their role as University Librarian, one theme emerged: strategic leadership and development.

As the Table 3 shows, the data presented is a reflection of how certain themes or concepts(codes) were distributed across your primary interview documents and transcriptions, helping to understand which topics were most frequently discussed and how they are distributed across the interview dataset. Figure 1 is a network view of strategic leadership and development codes from data and their respective relationship.

TABLE 3: EMERGENCY FREQUENCY OF THEMES

	Frequency
<b>Budgeting</b>	14 times in 7 primary documents
<b>Policy Development</b>	6 times in 6 primary documents
<b>Staff Leadership</b>	13 times in 7 primary documents
<b>Strategic Planning</b>	12 times in 7 primary documents
<b>Trainings</b>	5 times in 5 primary documents
<b>Resource Allocation</b>	1 time in 1 primary document

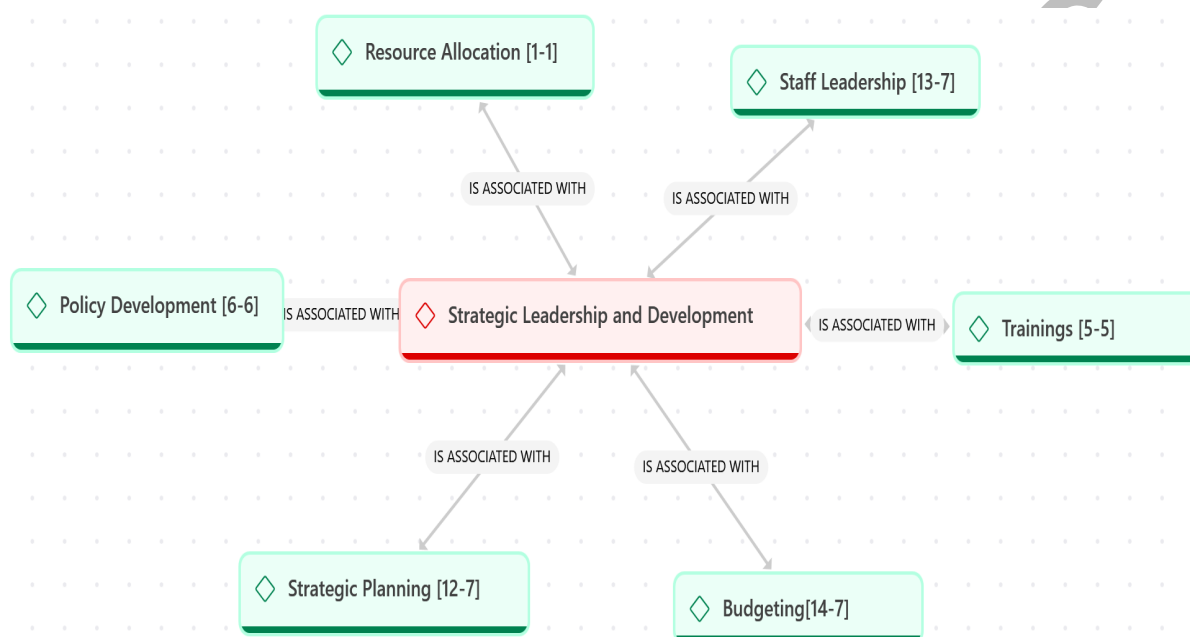


Figure 1. Roles of University Librarian

The following are samples of excerpts from University Librarians

*"As the head librarian, my primary role is to set the strategic direction for the library, ensuring that our goals align with the broader university objectives."*- [University Librarian 1]

*"Deciding where to allocate our budget is a significant part of my role, particularly balancing between physical and digital resources to meet evolving user demands."*- [University Librarian 3]

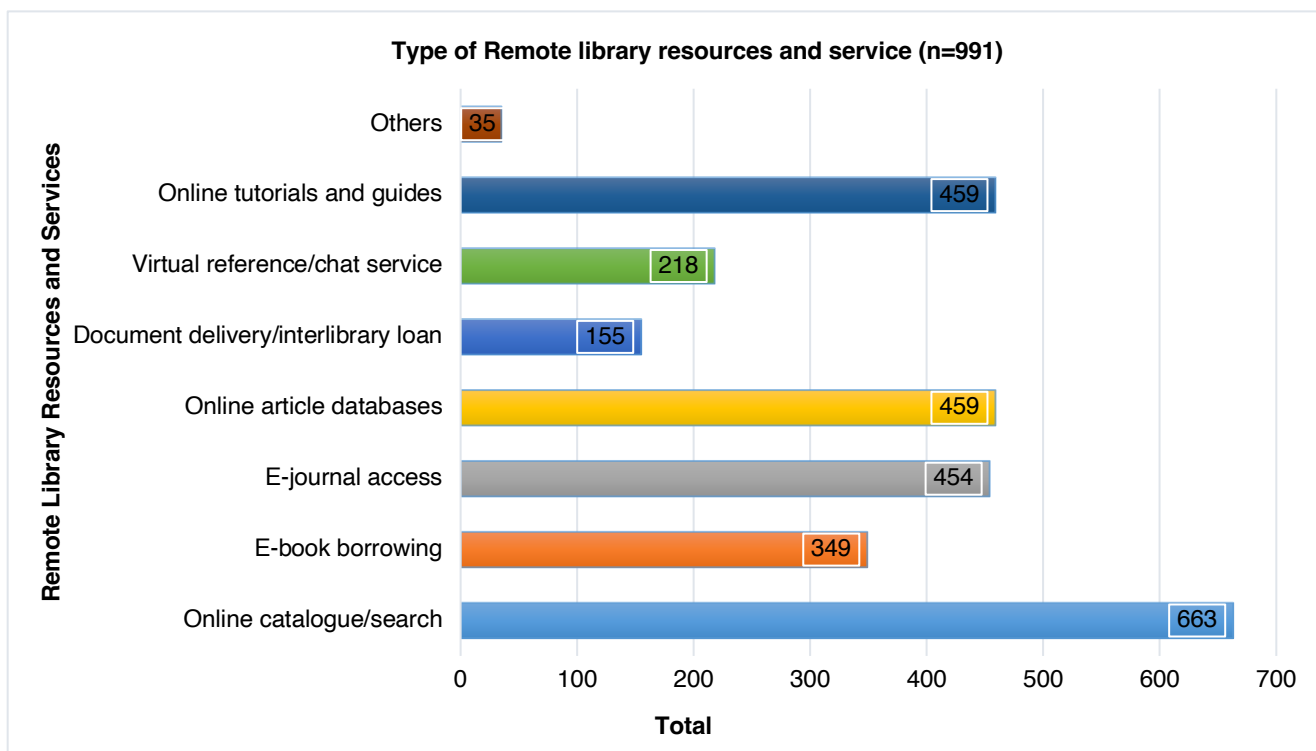
*"I work closely with other university departments to develop policies that support open access and academic freedom while ensuring compliance with copyright laws."*

*"Providing leadership and professional development opportunities for our staff is essential to maintain a motivated and skilled team."*- [University Librarian 5]

*"Chiefly to provide strategic leadership and vision to the university library and academic research in the University"*- [Librarian 7]

### 3.4 Type of Remote Resource and Services used by University Library Users

The study sought to establish specific remote resources and services available for library users, and the results are captured in Figure 2. This was a multiple response selection question.



**Figure 2. Types of Remote resources and Services**

The respondents were asked to indicate usage patterns of various remote library services. The findings indicate that the majority of 663(66.9%) utilized the online catalogue/search. Similarly, online article databases and online tutorials and guides were utilized by the second majority of 459(46.3%) respectively. E-journal access also shows substantial usage, with 454 (45.8%) respondents. E-book borrowing was indicated to be utilized by 349(35.2%), document delivery/interlibrary loan service, though less frequently used, still serves a notable segment with 155(15.6%). Virtual reference/chat services were specified to be utilized by 218(22%). Lastly, other services such as research assistance, self-service, account management, exam banks provision account for a small portion, with 35(3.5%) users.

The library users were asked to rate the quality of remote services and resources on a scale from 1 (Very Poor) to 6 (Excellent). The data paints a picture of varied user satisfaction levels across various dimensions, such as reliability, responsiveness, assurance, empathy, and tangibility. Figure 4 presents detailed analysis of the feedback.

As Figure 3 shows, a majority of library users rated reliability positively with 238(24.0%) marking it as 'Good' and 197(19.9%) as 'Very Good' and 25(2.5%) as 'Excellent'. However, there was also noticeable dissatisfaction, as 169(17%) rated it as 'Fair', 164(16.6%) rated it as 'Poor' and 198(20%) as 'Very Poor'. Responsiveness was poorly rated by the majority of the respondents with 261(26.3%) rating it as 'Poor' and 260(26.2%) as 'Very Poor'. Despite this, 161(16.2%) rated it as 'Fair', 156(15.7%) as 'Very Good', and 121(12.2%) rated it as 'Good'. Only a paltry 32(3.2%) rated this aspect as 'Excellent'. When it comes to assurance aspect, the ratings were mixed, while a majority 227(22.9%) of respondents rated it as 'Poor', a good number of the respondents 209(21.1%) rated it as 'Very Good'. Similar number of respondents, 182(18.4%) rated assurances as 'Very Poor' and 'Fair' respectively. A notable 146(14.7%) even rated it as 'Excellent' and the rest 45(4.5%) as 'Good'.

The responses for empathy were similarly a show of dissatisfaction, a majority of the library users, 309(31.2%), rated it as 'Very Poor' and another 240(24.2%) as 'Poor'. However, 201(20.3%) found it to be 'Good', 179(18.1%) to be 'Fair', 57(5.8%) 'Very Good' and only 5(0.5%) rated empathy as 'Excellent'. Finally, tangibility had the highest percentage of dissatisfaction, with 308(31.1%) of the library users rating it as 'Very Poor'. Nonetheless, 243(24.5%) of users considered it 'Fair', and 134(13.5%) rated it as 'Good'. Additionally, 110(11.1%) of library users rated tangibility as 'Very Good'. Similar number, 98(9.9%) of the library users rated the aspect as 'Excellent' and 'Poor' respectively.

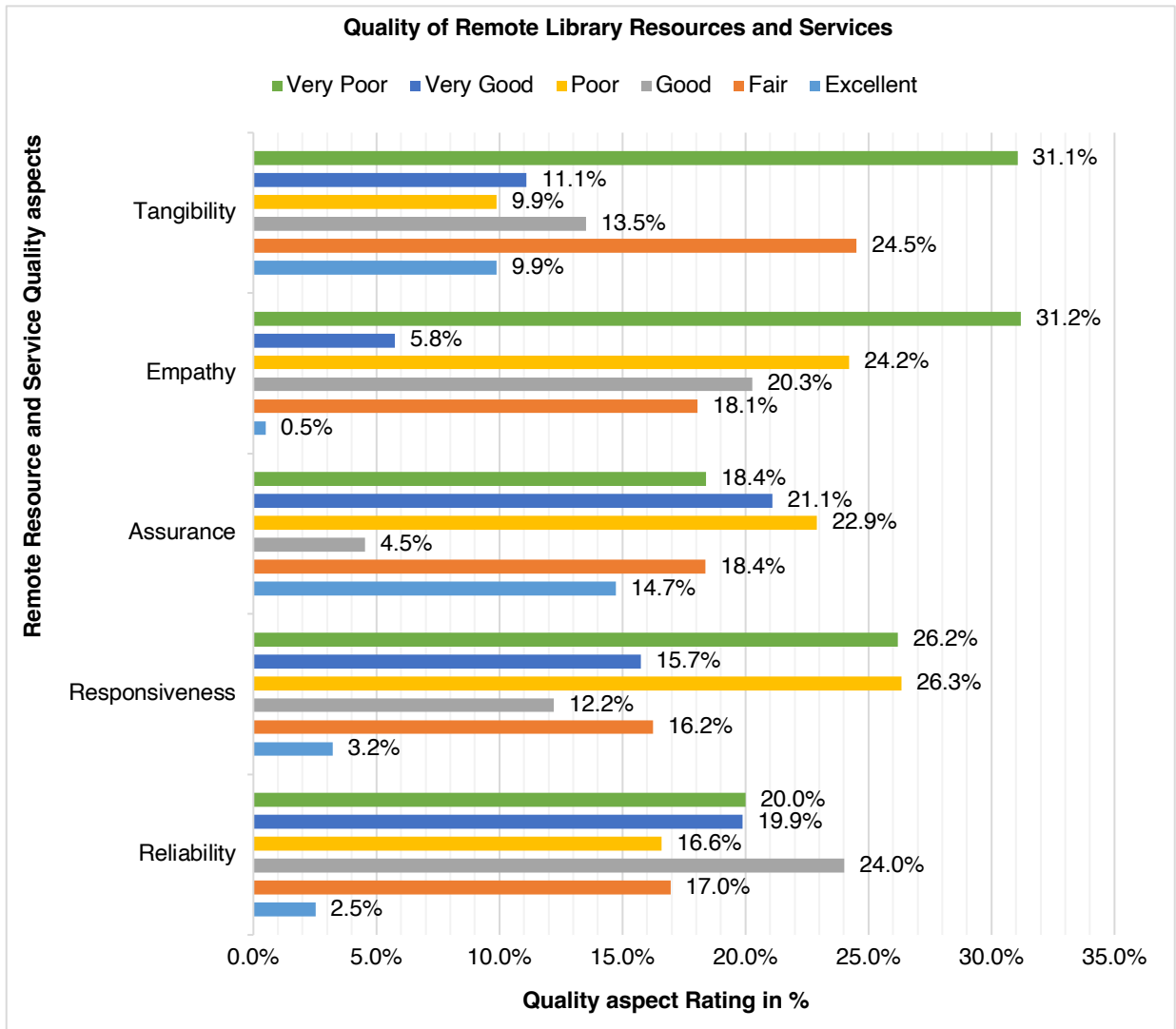


Figure 3. Library users' rating of the quality of remote services and resources.

### 3.5 Quality of Remote Services and Resources from the Library Staff Perspective

Similarly, library staff were asked the same question on quality of remote library resources. Figure 4 shows the distribution of library staff responses. The ratings for the reliability of remote services were mixed, 7 (20.0%) rated it as "Excellent," 7 (20.0%) as "Fair," 11 (31.4%) as "Good," 2 (5.7%) as "Poor," and 8 (22.9%) as "Very Poor". The library staff, however, painted an optimistic picture when it comes to responsiveness. Majority 12(34.3%) rated it as 'Excellent', 10(28.6%) rated it as 'Very Good', 6(17.1%) rated it 'Good', and 4(11.4%) as 'Fair'. Only 2(5.7%) rated it 'Poor' and 1(2.9%) library staff as 'Very Poor'. Assurance was also rated well by the library staff. 8(22.9%) rated it 'Excellent', 'Very Good' 12(34.3%) and 'Good' 6(17.1%). However, 5(14.3%) rated it as 'Fair', 2(5.7%) 'Poor' and 'Very Poor' respectively. Majority of the library staff 10(28.6%) rated empathy as 'Excellent', 10(28.6%) and 'Very Good', 8(22.9%) 'Good', 2(5.7%) 'Fair' and 3(8.6%) 'Poor' and 2(5.7%) 'Very Poor'. A majority 16(45.7%) of library staff rated tangibility as 'Good', another 14(40.0%) as 'Excellent' and 2(5.7%) as 'Very Good'. Only 1(2.9%) library staff rated it 'Fair', 'Poor' and 'Very Poor'.

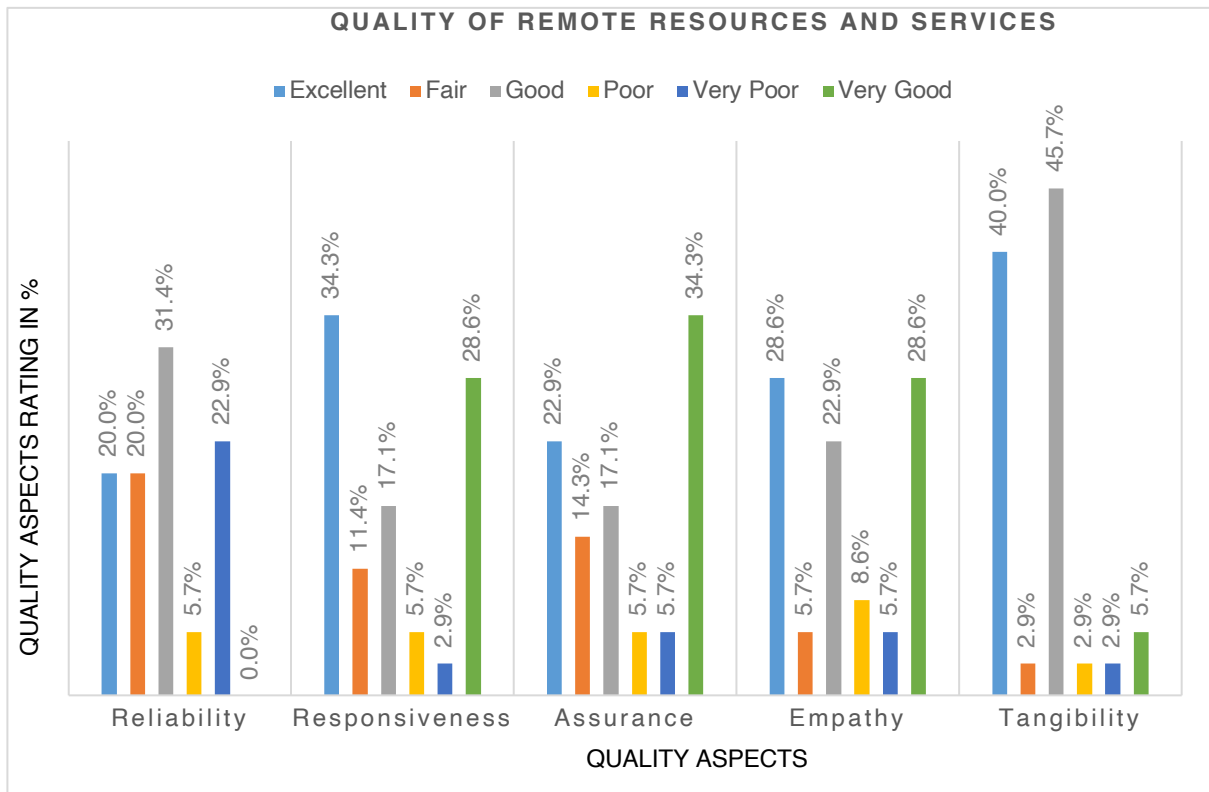


Figure 4. Library Staff Rating of Quality of Remote Services and Resources (n=35).

#### 4. Discussions

The study's high response rate of 1033(82.3%) out of a possible 1255 concurs with existing literature that emphasizes the importance of strong participation in ensuring credible research outcomes. Holtom et al., (2022) support this by suggesting that a response rate of 60% or higher is generally sufficient for social science research. This indicates that the study's findings are particularly robust, given that the overall response rate significantly exceeded this threshold. Dolinski et al., (2024) emphasize the importance of utilizing research methodologies that enhance response rates, which appears to have been effectively implemented in this study. This study combined online surveys and paper-based questionnaires to achieve a high response rate given that some part of it was carried out during long holidays.

The study established the varying usage patterns of different types of remote library resources and services, shedding light on users' preferences and satisfaction levels. For that matter the study examined frequency of use of these remote resources and services, roles and responsibilities of University Librarians in managing these resources and services, how user characteristics such as age, gender, and academic status influence engagement with remote resources and services and user-satisfaction with the different types of remote resources and services.

The established that the majority of respondents, 330(33.3%), use remote library resources occasionally, while 257(25.9%) access these services weekly. Daily usage is reported by 206(20.8%) respondents, and a smaller group, 117(11.8%), utilizes these services monthly. Notably, 81(8.2%) respondents indicated they have never used remote library services. This discovery is supported by various studies. For instance, Carson and Alexander (2020) research indicates that while many users have access to remote services and resources, the frequency of their use varies significantly, with a notable portion of users engaging with these resources sporadically rather than consistently. Similarly, Ashiq et al. (2022b) discuss how the pandemic forced university libraries to pivot to remote resources and services, yet many users still exhibited a tendency to engage with these services infrequently. Additionally, Ocholla and Ocholla (2020) study on academic libraries in South Africa emphasizes the readiness of libraries to support teaching and learning through digital means, yet it also reveals that user engagement with these resources is not uniform. They note that while many university libraries have enhanced their remote resources and services, the actual frequency of use among students and faculty varies, with many users still relying on traditional methods or accessing remote services and resources only when necessary. A user-centric remote library was recommended to have developed and implemented features that meet a range of users. For instance, converting text into speech and video closed captioning are characteristics, which would greatly improve accessibility for users with visual impairments; alternative file formats for documents can do the same to

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give access to such users. Additionally, users recommended that remote library platforms should be clear in their design, and easy to navigate. It will then be easier for users to go through the services provided and extract information in the quickest possible way.

The online catalogue/search emerged as the most frequently utilized remote service, emphasizing its pivotal role in engaging users with the library's collections and services. Majority 663(66.9%) of library users utilized service is the online catalogue/search. Online catalogue/search is a primary tool for remote library users. University libraries may need to allocate more resources towards improving and maintaining their online catalogues to meet user demand. High engagement with the online catalogue can also serve as a benchmark for evaluating the effectiveness of library services and outreach strategies. The reasons behind users' engagement with the online catalogue, such as whether they are conducting research, casual browsing, or fulfilling specific needs, could not be ascertained. However, Mose (2020) noted that the centrality of the online catalogue in facilitating user interaction with remote library resources could be the reason for high usage of online catalogue and search. For continuous usage of online catalogue/search, users recommended that the online catalogues/search should be remotely accessible, and should be user-friendly on all devices, anything from laptops down to even smartphones. The respondents indicated the need to develop AI-based chatbots that would be readily and available to assist remote library users to surmount any issues or problems they might come across when doing searches. Additionally, the users recommended that the libraries should continuously look to update and increase remote collections so that users have access to the most current sets of resources possible.

E-book borrowing and e-journal access were also prominently used. 349(35.2%) indicated borrowing and using e-books while 454 (45.5%) accessed and used e-journals. This reflects a strong preference for digital content among users. Previous study by Mwenda and Kimani, (2022b) observed an increasing shift towards remote resources in academic libraries in Kenya. These results are significant because they provide insights into user preferences and behaviors in a remote learning environment. Understanding how and to what extent users engage with these resources allows university libraries to make informed decisions about resource allocation, service improvements, and user-centric strategies. The relatively high use of e-journals and e-books indicates that the university libraries should prioritize expanding its journal subscriptions and improving the accessibility of its current journal databases as well as providing adequate training and support to users to navigate the remote library landscape effectively (Loh et al., 2021). Comprehensive trainings should be held in various forms, including webinars, workshops, to appeal to many learning styles. These will enable users to have the mobility and capability to work with library services from a remote location. Knowing who has the power is imperative; therefore, training and support will remain the library's top priorities.

Moreover, users extensively accessed online article databases. The management of online databases has also been a focal point for libraries striving to meet remote users' demands. These findings concur with a study conducted in Maharashtra, India, by Wadekar and Nagarkar (2018), which revealed that while some universities subscribed to online databases showed users satisfaction increase, others that didn't subscribe lagged behind, indicating a need for online databases in university libraries to enhance access and usability of remote resources. Users recommended improvement of internet connectivity, as reliable internet access is the very bedrock of the usage of remote online databases. Both academic staff and students also recommended that university libraries should focus on always improving the design and taking into account the new and new needs of the users in terms of what databases to subscribe to, it is necessary to provide free access to communication and others' opinions. There should be channels through which the users will be able to give feedback in regard to their experience of the library's remote services as soon as possible. This could be in the form of online questionnaires, feedback in a box, or a feedback section within the library interactive user environment.

Only 155(15.6%) of the university library users indicated that they utilize document delivery/interlibrary lending service. This low usage could mean the services are not there at all or users are not aware, though this service remains crucial for a substantial portion of the user community. This also means that some users require access to materials beyond what the library's immediate collection offers. This finding agrees with Yang et al. (2019) who conducted a survey assessing the use and awareness of interlibrary loan/document delivery services at Texas A&M University Libraries. Their findings revealed that while the overall usage of these services was low, users regard them as instrumental for their research needs, highlighting the continued relevance of document delivery services in academic settings. Enhancing stakeholders' cooperation features as a critical strategy in promoting innovation and improvement of remote library resources and services. This means going beyond the notions of the 'resource model' and establishing an environment focused and coordinated teamwork. Through syndicated discussions, both librarians and academic staff, students, and other professionals can come up with better ways of addressing the users' needs. Collaborating with other university libraries would also ensure interlibrary lending.

The study also established that Virtual reference/chat services are utilized by 218(22%). This is attributed to lack of availability of virtual reference/chat services across in some of the sampled libraries and general lack of awareness among users about the existence of these services. This shows that while most users rely on self-service resources like e-books and databases, a significant portion still seeks real-time assistance for navigating resources and resolving queries. Virtual reference services are essential for remote users who lack in-person support, playing a crucial role in enhancing access to library resources and improving user satisfaction, especially as universities continue to expand online learning environments. This trend is also consistent with



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findings by Sawe et al. (2024) and Mehta & Wang (2020) studies, that concluded that the growing reliance on virtual/chat services for research support and educational purposes must be replicated in the university libraries. Eastman et al. (2019) concurs and underscored the significance of chat reference services, particularly for remote library users, who rely on remote library platforms for synchronous research assistance. Eastman et al. (2019) research indicates that while users may seek quick answers, they are also open to receiving instructional support during chat interactions, particularly in the early stages of developing research questions. This suggests that virtual reference services play a dual role in providing immediate assistance while also facilitating deeper learning. Additional services, such as research aids, self-service options, account administration, and exam repositories, accounted for a smaller percentage of usage, indicating these are specialized offerings catering to specific needs. Specialized offerings remain valuable for a smaller group of users. As universities' libraries adapt to increased remote resources, they should also prioritize specialized services and resources and make them available to meet the unique needs of a smaller segment of users. Technical support featured prominently in the recommendation from both library users and librarians for a proper user-centric remote library. The library staff should provide speedy, competent technical support to deal with any problems that users might encounter, and this should be done so in a professional manner. Technology integration drives user experience and engagement in using remote library services. The library should further develop and maintain current tech solutions, including a user-friendly mobile app that allows users to conveniently access library resources and services on the go from any place with Internet access. Moreover, the searching within the library should be further developed in order to provide users with faster access to relevant information. Advanced filtering options of search engines, recommended resources based on user queries, and integration of natural language processing are some of the ways through which searching can become easier.

## 5. Conclusions

Remote library services are very significant in supporting academic success in Kenyan universities, particularly in light of the increasing demand for digital resources and the challenges posed by the COVID-19 pandemic. While remote services such as online catalogues, e-journals, and e-books are widely used, user satisfaction remains varied, with issues such as reliability, underutilization of virtual reference services, and limited access to document delivery services. The study also highlights the critical role of librarians in managing these services, emphasizing the need for strategic leadership, continuous staff training, and adequate budgeting to improve service quality. Additionally, the findings stress the importance of creating user-friendly platforms, regularly updating digital collections, and addressing technological challenges, such as internet connectivity and security concerns. Collaboration between librarians, academic staff, and students is vital in developing services that meet the evolving needs of remote users. To enhance the effectiveness and accessibility of remote library services, universities should prioritize improving technical support, fostering engagement, and ensuring that the resources provided align with the diverse needs of students and academic staff in a digital learning environment.

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## Ethical Statement

This study does not contain any studies with human or animal subjects performed by any of the authors.

## Conflicts of Interest

The authors declare that they have no conflicts of interest to this work.

## Author Contribution Statement

Author 1: Conceptualization, Methodology, Results, Discussion, Conclusion. Author 2: Supervisor. Author 3: Supervisor.

## Data Availability Statement

Not applicable.

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