LIBRARY INFRASTRUCTURE AND INFORMATION MANAGEMENT TOOLS ON USER ENGAGEMENT AMONG UNDERGRADUATES IN KWARA STATE UNIVERSITY, MALETE, NIGERIA

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Abstract

Library infrastructure and the deployment of modern information management tools are crucial in enhancing user engagement, especially among undergraduate students. Thus, this study examined library infrastructure and information management tools anduser engagement among undergraduates in Kwara State University, Malete. The study was guided by four specific objectives and adopted thedescriptive survey design with a population of 39,633 undergraduates from ICT faculty, while the sample size of 381 was determined using Raosoft online sample size calculator. A simple random sampling technique was adopted to give every respondent an equal chance of being selected in the process, while questionnaire was used for data collection. The data collected was analysed using descriptive statistics. The findings indicated that while students actively used Internet services and study areas, services such as reference and circulation were under-utilised, due to limited awareness. Library infrastructure received mixed reviews, with frequent complaints about inadequate seating, poor ventilation, and unstable internet connectivity. Although some digital tools like library management system and electronic databases were available, institutional repositories and reference managers were unfamiliar to students. The study, therefore, recommended among others that increased investment in infrastructure, user training, acquisition of essential tools, and a redesign of digital platforms to improve accessibility and engagement.

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Introduction

Universities are designed to develop lifelong learners, create an encouraging environment for teaching and learning, impart skills, behaviour, and attitude prerequisite for relevant professional positions in government parastatals, business organisations and industries. They are established to teach and carry out research to convey knowledge, skills and competencies as well as produce graduates who are well equipped to pursue service to the community and compete favourably in the international market. Universities are composed of various components that ensure they deliver their services effectively and efficiently. These components include students, staff, essential service units like administration, health centre, fire unit, faculties, departments, sports and recreational

The university library, as an essential component of the university system, contributes immensely to the overall goals and objectives of the university. It is central to advancing academic pursuits and cultivating an atmosphere of learning and research within higher education institutions. As an established and organised arm of a university with a clear mandate to provide relevant and up-to-date information resources that meet the information needs of its users, the main aim of a university library is to acquire information resources in different formats, and in various fields of human knowledge, and to process, organise, disseminate and provide access to them.

User engagement in libraries refers to how actively and meaningfully users interact with library resources and services. This involves not just the borrowing of books, but also participation in educational programmes, workshops, seminars, and community events. Engaged users are more likely to perceive the library as a vital part of their lives, leading to increased patronage and support for library services. User engagement 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 (Misra, Chopra, & Bhaskar, 2023).

User engagement in a university library involves the interaction between patrons and library resources. Effective user engagement is facilitated by easy access and utilisation of library resources (Mutuma, Gichohi, & Nzioka, 2024). User engagement was defined as the emotional, cognitive and behavioural connection that exists, at any point in time and possibly over time, between a user and a resource (Masrek et al., 2018). Boff and Cardwell (2020) asserted that user engagement in university libraries encompasses diverse interactions among students, faculty, library resources, and services. A central dimension of this engagement lies in the active use and access of digital resource databases, which play a critical role in supporting academic activities and research endeavours.

Engagement can be dissected into two categories: transactional and relational. Transactional engagement involves conventional interactions, such as checking out items or using information resources, while relational engagement refers to deeper interactions, like participating in library-led initiatives or forming personal connections with library staff. Both dimensions are crucial for libraries aiming to remain relevant in a digital age, characterised by an abundance of information and shifting user expectations (Obasuyi, 2024). In order for a university library to achieve its goal of providing information and access to its users, library infrastructure and skilled personnel play a major role (Omeluzor, 2017).

The essence of library infrastructure in university libraries cannot be overstated. Library infrastructure is the bedrock of information acquisition, processing, organisation and access. Library infrastructure includes bookshelves, a catalogue cabinet, chairs, air conditioners, a computer system and accessories, and internet facilities (Omeluzor, 2017). Syndman and Whitehead (2025) stated that library infrastructure is not one system but a **network of specialised platforms** working together, including repositories, discovery systems, and preservation tools. Library infrastructure is essential, as infrastructure plays a key role in attracting public interest and fostering a literacy culture. Adequate facilities, such as updated book collections, comfortable spaces, and supporting technology, enhance the learning environment and reading interest. The lack of such infrastructure leads to low library patronage and visitation. Adequate library infrastructure not only attracts visitors but also creates a conducive environment for learning and literacy (Hamudy et al., 2024).

Library infrastructure, with adequate collections and facilities, plays a central role in improving teaching and learning. (Falah, 2022) stated that the provision of quality educational services is

significantly shaped by multiple factors, one of which is the presence of library infrastructure. A library equipped with an adequate and diverse collection of materials, supported by comprehensive facilities and infrastructure, serves a vital role in enhancing the teaching and learning process. The availability and completeness of such resources are essential not only for ensuring equitable access to information but also for fostering a comfortable and conducive learning environment.

Information management in university libraries is the systematic process of acquiring, organising, storing, retrieving, and disseminating information resources to support teaching, learning, and research. It involves managing both print and digital materials such as books, journals, databases, theses, and multimedia resources in a way that ensures accurate, timely, and easy access for students, faculty, and researchers. More comprehensively, information management encompasses the processes of identifying, producing, classifying, storing, disseminating, and applying information, while taking into account organisational, cultural, social, and technological dimensions (Mastura & Norhayati, 2017).

Information management tools, on the other hand, are systems designed to support the organisation, storage, retrieval, and dissemination of academic information resources. These tools are significant for libraries to manage data, improve productivity, and enhance decision-making. They can be hardware or software solutions designed to facilitate the storage, retrieval, and dissemination of information. The integration of such tools in university libraries signifies a fundamental shift in the way users access information. These tools include library management systems (LMS), institutional repositories (IR), discovery tools, electronic databases, and citation management systems. A library management system automates core library functions such as cataloguing, circulation, acquisitions, and serials. For instance, Koha, Alma, and Sierra allow libraries to maintain accurate bibliographic records and provide users with Online Public Access Catalogue (OPACs), enabling users and researchers to search for books, journals, theses, and other library materials efficiently.

Library infrastructure and information management tools are particularly significant in university settings where students, faculty, and researchers rely heavily on timely access to information. Well-equipped infrastructure and user-friendly management systems encourage greater interaction with library services, improve information-seeking behaviour, and enhance overall academic productivity. Therefore, this study seeks to investigate the effects of library infrastructure and information management tools on user engagement among undergraduates in Kwara State University, Malete.

Statement of the Problem

University libraries play significant roles in supporting academic excellence by providing access to resources, information and technological tools, and learning spaces that enhance teaching, learning, research, and community services. However, in many Nigerian universities, there is a growing concern about the adequacy of library infrastructure and the effectiveness of information management tools in meeting the needs of undergraduate students (Moonasar, 2025; Onunka et al., 2023). Moreso, despite technological advancements and increased investment in digital resources, user engagement in university libraries appears to remain low (Liu et al., 2024; Oyedokun, 2023).

More so, it is established in the literature that there is a lack of studies that demonstrates connection among library infrastructure, information management tools, and user engagement in Kwara State University. It is on this premise that this study examines the effect of library infrastructure and information management tools on user engagement among undergraduates in Kwara State University, Malete, Nigeria.

Objectives of the Study

The main objective of the study is to examine effects of library infrastructure and information management tools on user engagement among undergraduates in Kwara State University, Malete. The specific objectives are to:

1. evaluate the level of user engagement with library resources and services among undergraduate students in Kwara State University, Malete;
2. examine the adequacy of library infrastructure on user engagement in Kwara State University, Malete;
3. assess the availability of information management tools in Kwara State University, Malete
4. examine the utilisation of information management tools in Kwara State University, Malete; and
5. identify challenges faced by undergraduate students in accessing and using library infrastructure and information management tools in Kwara State University, Malete; and
6. propose recommendations for improving library infrastructure and information management tools to enhance user engagement among undergraeduates in Kwara State University, Malete.

User Engagement with Library Resources and Services among Undergraduate Students

Undergraduate students' engagement with library resources and services involves the ways they actively interact with, make use of, and gain value from the library's collections, technologies, and support systems to fulfill their academic and personal information needs. It represents both the extent and the quality of their involvement with library facilities, resources, and staff. Mutuma (2024) analysed strategies for enhancing user engagement in university libraries in Meru County, Kenya. The study adopted a descriptive survey research design. A sample of 434 undergraduate students, 267 postgraduate students, and 15 library staff participated in the study. 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.

Masrek (2018) carried out a study on user engagement and satisfaction: The case of web digital library. The study used a descriptive survey design, and the web, digital library as the object of assessment. 299 respondents provided the research data that were analysed using Partial Least Square Structural Equation Modeling (PLS-SEM) approach. The findings of the study revealed that user engagement has a strong and positive relationship with satisfaction. In the results, all the constructs namely: focused attention, perceived usability, aesthetics, endurability, felt involvement and novelty carried significant weight in the formation of user engagement. The results simply suggested that, the higher the rating of the user engagement, the higher is the satisfaction of the users.

Ahmed and Maharana (2024) explored the impact of information literacy on user engagement in digital environments within the university libraries of Utkal University and Sambalpur University in Odisha State. The study employed a survey method, using structured questionnaires to collect data from students at both universities. The findings revealed a significant positive correlation between information literacy and user engagement in both university libraries. Specifically, critical thinking and evaluation skills were found to predict user engagement through user behavior and search approaches.

Cleverly and Heeson (2019) evaluated usage, engagement and impact: evaluating the usage of and measuring impact and engagement with library resources at Leeds Beckett University Library. The initial analysis showed that students were using e-resources more than physical stock, and that the

most used e-resources had content relevant to the course. The findings further revealed that the library induction was delivered in November and, following induction, the breadth of e-resources used increased and more e-resources were accessed by those who attended the induction compared to those who did not.

Adequacy of Library Infrastructure on User Engagement

Adequacy of library infrastructure plays a significant role in shaping how undergraduate students engage with library resources and services. Infrastructure refers not only to the physical facilities, but also to the technological, digital, and human resources that support learning and research. When infrastructure is adequate, students are more likely to view the library as a reliable and supportive academic environment, leading to higher levels of engagement (Moonasar, 2025).

Zheng et al. (2024) studied the influence of university library environment on student interactions and college students' learning engagement. The study surveyed 45 Chinese universities. The results showed differences in Chinese college students' learning engagement in liberal arts and sciences majors. The learning engagement of liberal arts majors is much lower than that of science students. The findings further revealed that the library environment has an important influence on college students' learning engagement. The library environment can affect college students' learning engagement through the intermediary role of interactive participation among students. In addition, for liberal arts students, the direct effect of the library environment on their learning engagement is more significant. However, for science students, the influence of the library environment on their learning engagement is more strongly intermediated by the students' interaction.

Mutuma et al. (2024) examined digital resources accessibility as a strategy for enhancing user engagement in university libraries in Meru County. The study adopted a descriptive survey design and a sample of 716 participants was selected using stratified and simple random sampling techniques, and purposive sampling for library staff. The study 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 suggested that the university library's provision of user-friendly digital platforms and diverse digital resources effectively promote increased engagement.

Panda and Kaur (2023) in their study enhancing user experience and accessibility in digital libraries through emerging technologies stated that revolutionising the digital library experience necessitates a profound commitment to user- centric design and the integration of cutting-edge technologies. From AI-driven recommendations to immersive virtual reality, these advancements hold the key to breaking down accessibility barriers and fostering engaging user interaction.

Availability of Information Management Tools in University Library

The availability and utilisation of information management tools in university libraries constitute a critical factor in supporting teaching, learning, and research of the student and faculty. The organisation, retrieval, and distribution of information resources are made easier by information management tools like Radio Frequency Identification (RFID) technologies, electronic databases, digital repositories, online public access catalogues (OPAC), and integrated library management systems.

Echem and Udo-Anyanwu (2018) investigated information retrieval tools and library physical environment as correlates of library utilisation by students in Rivers State University Library, Nigeria. The study adopted a correlational design. The population of the study consisted of 682 registered undergraduate library users out of which a sample of 227 was drawn using YaroYamene's statistical formula. The results of the study showed that the retrieval tools provided catalogues, bibliographies, indexes and abstracts, OPAC, and search engines. The level of relationship that

exists between information retrieval tools provided in the library and students' use of the library is said to be very strong and positive. Also, there is a significant relationship between information retrieval tools provided in the library and students' use of the library. Retrieval tools are crucial for retrieving information for educational outcomes.

Jayakananthan and Jeyaraj (2020) investigated subject plus: An information management tool for developing research guides in academic libraries. The study established that for the management of all sub-divisions of the libraries, the information professionals are using several library management software, management tools, and new technological services as well. Hence, the study discussed the experience of creating and managing online subject guides or research guides at the Eastern University, Sri Lanka (EUSL). The study identified Subject Plus as a free and open-source tool that enables libraries to create and manage online research guides. And this tool maps to the library resources while simultaneously helping the researchers to find the right information at the right time.

Enakrire and Smuts (2023) investigated efficacy of knowledge management tools in supporting university library operations. The research approach employed in this study was quantitative, utilising a survey research design. A sample of 132 librarians, consisting of 77 from Nigeria and 55 from South Africa, was selected from university libraries in both countries using purposive sampling techniques. The study's findings revealed that various KMTs, including search engines, semantic web, and information retrieval tools were available and employed to support information service delivery and manage database institutional repositories in the selected university libraries in Nigeria and South Africa.
Azzahrawaani and Ikrimah (2024) reviewed implementation of knowledge management tools in libraries: A systematic literature review. The study is a systematic literature review following the PRISMA framework. A total of 31 articles were collected and subsequently analysed based on their relevance to the research topic. The findings revealed that KM tools in libraries include the online Public Access Catalogue (OPAC), repositories, social media, face-to-face interactions, and the 'Ask the Librarian' feature.

Utilisation of Information Management Tools in University Library
Chakraborty (2018) studied RFID: A modern library management tool. The study established that library management software plays a crucial role in enhancing information retrieval; however, if documents cannot be promptly provided upon users' requests, the primary objective of the system remains unachieved. Consequently, the systematic arrangement of documents is indispensable. Proper organisation ensures that users can readily access required materials at any given time. In instances where documents are not adequately arranged, Radio Frequency Identification (RFID) technology can serve as a supplementary tool to facilitate quicker retrieval.

Khan and Ayesha (2022) examined key features of information management systems (IMSs) for automation in university libraries: A viewpoint of information professionals in Pakistan. A quantitative study using purposive sampling was conducted among 157 librarians working in university libraries. The findings showed that free and open-source software is widely used for managing bibliographic information in university libraries. Notably, Koha was identified as the most popular software for library automation in Pakistani universities. The study also highlighted key features of effective library information management systems (IMS), such as reliability and security, user-friendly interfaces, advanced search functions, compliance with library standards like MARC, UniMARC, and RDA, online upgrade capabilities, technical support availability, shared cataloguing features, and multilingual options.

Besides Koha, the study found that other software solutions are also employed for library automation in Pakistani university libraries. These include Virtual Library Management Systems (VLMS) and Library Information Management Systems (LIMS). Based on these findings, it was recommended that university librarians should carefully consider these essential features when choosing software for library automation to ensure efficiency and effective service delivery. Yaima (2024) carried out study on information search strategy and retrieval tools in the 21st century information management in Nigeria academic libraries. The study recommended that librarians equip library users with knowledge of information retrieval tools as this will facilitate the maximum utilisation of information resources available in the library. Enhancing the knowledge of library users on the use of information retrieval tools and search strategies will reduce the amount of time wasted in searching for information.
Awoyemi and Okojie (2024) examined strategies and best practices of knowledge management in academic libraries in Nigeria. The study adopted a descriptive survey research design. The population of the study consisted of 114 library professionals working in the eight (8) academic libraries in Nigeria. The study's results revealed that the main purposes of implementing KM in academic libraries are improving library services, managing information explosions, and meeting information needs of users. The highest rated areas of KM include digital and online services, reference services and technical services while strategies of KM included providing and using available ICT facilities, training in ICT and KM, and developing a knowledge sharing culture.

Harineeswaran et al. (2015) studied knowledge management, components, stages, tools and their strategies for academic libraries in modern era. The study concluded that knowledge management tools help libraries to develop into more efficient organisations, taking advantage of the new demands of the knowledge society leading to the improvement and development of new services to users, in addition to increasing the use, creation and sharing of knowledge among the library staff. Implementing KM in academic libraries leads to perfecting the ability of these organisations to learn. The KM in academic libraries will also lead to the generation of new knowledge, development of new procedures and practices to improve the integration and sharing of knowledge within organizations.

Challenges faced by Undergraduate Students in Accessing and Using Library Infrastructure and Information Management Tools

Undergraduate students frequently encounter a range of challenges that limit their effective utilisation of library infrastructure and information management tools. These shortcomings often result in difficulties with retrieving, evaluating, and applying scholarly information for academic purposes. Abdul (2023) studied effect *of management practices and accessibility on use of information resources by undergraduate students in Federal University Libraries in North-Central Nigeria.* The survey research design was adopted for the study. The sample for the study from which data was collected was three hundred and eighty-three (383). The findings established that inadequate up-to-date information resources, mutilated materials, poor Internet services, inadequate staff, difficulty in accessing materials, inadequate search skills, poor arrangement of the information resources, and information resources not well displayed are challenges faced by users in accessing and using information resources.

Ibenne and Durodolu (2024) explored factors shaping library engagement and satisfaction: A study of students with visual impairment in South-Eastern Nigeria. The findings revealed that impediments to user satisfaction include inadequacy of media formats, contents, outdated materials, lack of equipment, and recording studios. The study recommended that addressing these challenges is crucial to improving library engagement and user satisfaction among visually impaired students in South-Eastern Nigeria, ultimately fostering more inclusive and supportive educational environments.

Jumanne (2023) investigated challenges facing undergraduate students in accessing and using information resources at University of Dar Es Salaam. The study used a survey research design. In terms of research approach, the study used a mixed method approach that combined both qualitative and quantitative approaches to collect data. The study used 180 respondents as sample, and used questionnaire to collect data. The major findings of the study showed that most undergraduate students from the selected courses are able to access and use information resources, although there are some challenges in accessing and using those information resources. These challenges include poor internet connectivity, lack of information literacy skills, lack of ICT knowledge, lack of access to computers, lack of information professionals and inadequate of current resources but to some extent they are able to access and using information for learning.

Bulau and Badamasi (2024) investigated accessibility and challenges associated with digital library resources for learning among undergraduate students in Universities in Yobe State. The target population comprised of all the undergraduate students of universities in Yobe state, which is 14143. Questionnaire was used as the instrument for data collection. The findings indicated that low bandwidth, poor internet connectivity and poor enabling environment were among the challenges faced by undergraduate students in accessing of library resources. Emmanuel et al. (2024) explored the use of ICT tools by postgraduate students at Dr. Nnamdi Azikiwe Library, University of Nigeria, Nsukka. A descriptive research design was employed in the study. A random sampling procedure was used to select 50% of the total population, resulting in a sample size of 254. The findings revealed that postgraduate students face challenges such as poor network connectivity and power outages in the use of ICT facilities in the library

Furthermore, Falah (2022) noted that the implementation of library facilities and infrastructure management in schools is of-ten faced with various challenges. Some obstacles such as the lack of adequate supporting facilities, and the lack of competent library management staff often hinder efforts to optimise the function of the library as a learning center that can be accessed by students and teachers.

Methodology

This study adopted the descriptive survey design, which was used to gather information and opinions from the respondents. The population of the study was 39,633, comprising all undergraduate students in the ten (10) faculties and over sixty (60) academic departments at the Kwara State University, Malete, Nigeria. The simple random sampling technique was adopted to give every respondent an equal chance of being selected in the process, while the sample size of 381 was determined using Raosoft sample size online calculator at 95% confidence level and 5% margin of error. The instrument of data collection was questionnaire with its contents guided by the objectives of the study. Face and content validity of the instrument were ascertained by integrating the opinions and views of the experts in the final questionnaire. The descriptive statistics was used to provide answers to the research questions. Tables 1 and 2 present the population and sample size for the study:

Table 1: Study Population

S/N	Faculty	No. of Students
1	Agricultural and Veterinary Medicine	1,200
2	Allied Health Science	7,000
3	Arts	2,956
4	Basic Health Science	4,966
5	Education	1,050
6	Engineering and Technology	3,135
7	Information and Communication Technology	7,173
8	Law	135
9	Management and Social Science	7,081
1_0	Pure and Applied Science	4,937
	TOTAL	**39,633**

Field Survey, 2_0 25

Table 2: Sample Size

S/N	Faculties	Total population	Sample size
1	Agricultural Sciences	1,200	12
2	Allied Health Science	7,000	67
3	Arts	2,956	28
4	Basic Medical Sciences	4,966	48
5	Education	1,050	10
6	Engineering and Technology	3,135	30
7	ICT	7,173	70
8	Law	135	1
9	Management and Social science	7,081	68
1_0	Pure and Applied Science	4,937	47
	TOTAL	**39,633**	**381**

Field Survey, 2_0 25

DATA ANALYSIS, PRESENTATION, AND DISCUSSION OF THE FINDINGS

This presents the study's findings derived from the analysis of the collected data.

Table 3: Demographic Information of the Respondents

Demographic Information	Category	Frequency	Percentage (%)
Gender	Male	176	47.31
	Female	196	52.69
	Total	**372**	**100.00**
Age	15–20 years	109	29.30
	21–25 years	162	43.55
	26–30 years	74	19.89
	31 years & above	27	7.26
	Total	**372**	**100.00**
Level	100 Level	110	29.57
	200 Level	83	22.31
	300 Level	70	18.82
	400 Level	109	29.30
	500 Level	**-**	**0.0**
	Total	**372**	**100.00**

Field Survey, 2025

Table 3 presents the demographic information of the respondents who participated in the study. A total of 372 students completed and returned the questionnaire, and their responses were categorised based on gender, age, and academic level. For gender distribution, 52.69% was female, while male was 47.31%. This reflects a fairly balanced gender composition among the respondents, with a slight tilt towards female. On the age distribution, 21 to 25 years were 43.55%, followed by 15 to 20 years 29.30%. 19.89% were 26 to 30 years, while those aged 31 years and above were 7.26%. These figures suggest that most of the students involved in the study were within the traditional undergraduate age range. Also, 29.57% of them was in 100 level, 22.31% was in 200 level, 18.82% in 300 level, 29.30% in 400 level, while no student participated in 500 level.

Table 4: Level of User Engagement with Library Resources and Services among Undergraduate Students

S/N	Statements	VF F(%)	F F(%)	R F(%)	N F(%)	M	SD
1	I visit the library for academic purpose	116(34.13)	98(28.84)	65(19.12)	61(17.94)	2.79	1.02
2	I use library resources such as books, journals, and e-resources	80(24.24)	120(36.36)	90(27.27)	40(12.12)	2.73	0.93
3	I use circulation services for academic improvement	57(19.59)	98(33.68)	143(49.14)	22(7.56)	2.65	0.82
4	I use library computer and Internet	147(40.05)	53(14.44)	74(20.16)	93(25.34)	2.69	1.15
5	I use reference services for academic performance	90(24.32)	100(27.03)	80(21.62)	100(27.03)	2.49	1.10
6	I use library study areas for reading, assignments, group discussions, etc.	120(32.26)	92(24.73)	90(24.19)	70(18.82)	2.71	1.04

Table 4 shows the extent to which students engage with library resources and services. The majority of the respondents indicated visiting libraries for academic purpose with very frequent visits 116(34.14%), 98(28.84%) with frequent use, rarely 65(19.12%) with rarely used, and 61(17.94) with not at all. This suggests moderate engagement overall. Similarly, the use of library resources such as books, journals, and electronic materials showed slightly lower engagement, as 80(24.24%) of the respondents indicated very frequent usage and 120(36.36%) reported frequent use, 90(27.27%) used them rarely, while 40(12.12%) not at all. Engagement with circulation services was relatively lower, with only 57(19.59%) of the students used them very frequently and 98(33.68%) frequently, while the majority used them rarely 143(49.14%). 147(40.05) used computer and Internet very frequent, 53(14.44) used them frequent, 74(20.16) rarely used them, while 93(25.34) used them not at all. This shows that the majority of the respondents used computer and the Internet frequently. There was a clear difference among the respondents on the use of reference services for academic performance with 190(51.35) frequently used the services, while 100(27.03) did use the services at all.

Table 5: Adequacy of Library Infrastructure on User Engagement

S/N	Statements	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	M	SD
1	The library environment is conducive for reading and research.	95(25.00)	85(22.37)	60(15.79)	67(17.63)	65(17.11)	3.75	1.23
2	There are enough chairs, tables, and reading spaces in the library.	55(15.28)	65(18.06)	95(26.39)	75(20.83)	70(19.44)	3.39	1.21
3	There is constant power supply and ventilation in the library.	67(20.36)	83(25.23)	74(22.49)	61(18.54)	44(13.37)	3.61	1.18
4	There are sufficient and functional ICT facilities (computers, printers, internet, software application, multimedia tools).	57(17.33)	76(23.10)	86(26.14)	69(20.97)	41(12.46)	3.47	1.16
5	Internet access in the library is reliable and adequate for academic work.	48(14.81)	72(22.22)	82(25.31)	88(27.16)	34(10.49)	3.43	1.14

Field Survey, $2_0$25

Table 5 shows the responses of students on the adequacy of library infrastructure on user engagement. The majority of the respondents agreed that the library environment is conducive for reading and research, with 180(47.37%) agreed, 60(15.79) was neutral, while 132(34.74) disagreed. On the furniture and space, 120(33.34%) of the respondents agreed that there are enough chairs, tables, and reading spaces. 95(26.39%) was neutral, while 145(40.27) disagreed that there was no enough furniture and space. Power supply and ventilation were perceived more favourably with 150(45.59%) respondents agreed that they were constant. 105(31.91) disagreed, while 74(22.49) remained neutral. On the ICT facilities, 133(40.40%) of the respondents agreed that ICT facilities are sufficient and functional, 86(26.14) was neutral, while 110(32.43) disagreed. The respondents' assessment of Internet access was less favourable with 120(37.03) agreed with the Internet access, 82(25.31) was neutral, while 122(37.65) disagreed on the reliability and adequacy of the Internet access.

Table 6: Availability of Information Management Tools

S/N	Items	Available F(%)	Not Available F(%)	Mean	SD
1	Online Public Access Catalogue (OPAC)	165(44.4)	207(55.6)	1.56	0.50
2	Institutional Repository	35(9.4)	337(90.6)	1.91	0.29
3	Electronic Databases	200(53.8)	172(46.2)	1.46	0.50
4	Reference Management Tools	150(40.3)	222(59.7)	1.60	0.49
5	Library Management System	248(66.7)	124(33.3)	1.33	0.47

Table 6 shows the availability of information management tools in the university library as perceived by the students. 165(44.4%) of the respondents agreed that OPAC is available, while the majority of the students expressed that OPAC is not available in the library with 207(55.6%). The majority of the respondents with 337(90.6%) indicated that institutional repository (IR) is not available, while 35(9.4%) expressed availability of the IR in the library. 200(53.8%) agreed that e-databases were available, while 172(46.2%) indicated non-availability of e-databases. 150(40.3%) indicated that reference management tools are available, while the majority of the students indicated non-availability of the tools. The majority of the respondents with 248(66.7%) agreed that library management system (LMS) is available, while 124(33.3%) indicated non-availability of the LMS.

Table 7: Utilisation of Information Management Tools

S/N	Statements	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	M	SD
1	OPAC is frequently used to search for books and other library materials.	56(15.6)	84(23.5)	72(20.1)	80(22.4)	66(18.4)	3.36	1.23
2	Digital tools such as online databases and institutional repositories are effectively utilised	61(17.0)	79(22.1)	81(22.6)	73(20.4)	64(17.9)	3.43	1.22
3	Library digital tools are considered user-friendly and supportive of academic research	72(20.1)	83(23.2)	69(19.3)	70(19.6)	64(17.9)	3.51	1.24
4	Library users can easily check item availability and shelf location using digital tools.	66(18.44)	70(19.55)	83(23.18)	72(20.11)	67(18.72)	3.40	1.23
5	Circulation activities (charging and discharging) are effectively managed through the LMS	70(19.55)	80(22.35)	62(17.32)	85(23.74)	61(17.04)	3.49	1.24

Table 7 shows students' responses on the utilisation of information management tools available in the university library with 140(39.1%) agreed that OPAC is frequently used to search for books and other materials, 72(20.1%) neutral, while 146(40.8%) disagreed. For digital tools, the majority of the respondents with 140(39.1%) agreed that they are effectively used, 81(22.6%) was neutral, while 137(38.3%) disagreed. On the ease of checking item availability and shelf locations using digital tools, 136(37.9%) of the respondents agreed, 83(23.15) was neutral, while 139(38.8%) disagreed. 150(41.9%) of the respondents agreed on the circulation management using the library management system (LMS), 62(17.3%) was neutral, while 146(40.8) disagreed.

Discussion of the Findings

On the students' engagement with library services, the findings of the study show a moderate but varied level of interaction with available resources. Most students reported visiting the library for academic purposes and using the physical and digital resources offered, such as books, journals, and internet services. This level of engagement highlights the relevance of the library to support students' learning experiences. However, services like reference and circulation were less frequently used, indicating a potential gap in awareness or perceived usefulness. This aligns with the findings of Nwosu and Igwesi (2019), who noted that while university libraries are still central to academic success, students tend to under-utilise resources and services like reference and circulation due to poor orientation or lack of digital literacy. Similarly, Ojo and Akande (2016) emphasised that library services, especially those requiring interaction with staff, are often ignored unless students are specifically guided on how to use them. The high usage of internet services and study areas, on the other hand, reflects a shift towards self-directed, tech-supported study habits among students, consistent with the observations of Cleverly and Heeson (2019), who highlighted the increasing role of digital tools in students' learning behaviours.

On the students' perceptions of library infrastructure, the findings of the study suggest mixed satisfaction. While many found the environment conducive for reading and research, concerns were raised about the availability of furniture, functional ICT facilities, and reliable internet connectivity. A few students strongly agreed that facilities like chairs, tables, ventilation, and Internet were sufficient. These findings support the study by Abdul (2023), who found that inadequate infrastructure remains a major barrier to effective library use in Nigerian universities. Moreover, Moonasar (2025) pointed out that even when libraries invest in digital resources, a poor physical environment can deter usage. The low scores on the Internet reliability are particularly concerned in a digital age where students rely heavily on online academic content. This finding reflects those of Zheng et al. (2024), who reported that many Nigerian university libraries struggle to maintain stable electricity and Internet access, thereby limiting their functionalities in supporting digital learning.

Library management system and electronic databases are reported as available by over half of the respondents, others such as the institutional repository and reference management tools are perceived as largely unavailable. Notably, over 90 percent of students reported that the institutional repository was not accessible, suggesting a significant disconnect between the library's digital resources and user awareness. These findings support the conclusions drawn by Jayakananthan and Jeyaraj (2020), who emphasised that the availability of digital tools does not automatically translate to usage, especially when libraries fail to train or inform users. Additionally, Oyewusi and Oyeboade (2017) identified limited visibility and lack of user education as primary reasons why important tools like OPAC and reference software are under-utilised. The findings here suggest that even where infrastructure exists, it may not be sufficiently integrated into students' academic routines due to poor promotion or usability challenges.

Despite the reported availability of some digital tools, their actual utilisation remains low to moderate. Students expressed uncertainty or indifference toward the use of OPAC, institutional repositories, and reference tools. Most respondents neither strongly agreed nor strongly disagreed with statements about the effectiveness or friendliness of these systems, reflecting a gap in confidence or familiarity. This is consistent with the study by Awoyemi and Okojie (2024), who found that students often struggle with navigating digital library tools due to poor training and minimal exposure during orientation. Similarly, Yaima, (2024) pointed out that while digital tools enhance academic productivity, their usage remains limited when students are not actively guided. Furthermore, perceptions of poor user-friendliness may stem from outdated interfaces or technical issues, as noted by Adeniran (2018), who argued that usability plays a critical role in student engagement with library technology.

Conclusion and Recommendations

The findings of the study established that while students at Kwara State University, Malete engage with some library resources particularly books, journal, and e. resources, there is a noticeable gap in the utilisation of essential services such as reference support and circulation. The adequacy of library infrastructure received mixed responses, with students highlighting issues related to seating, ventilation, and inconsistent internet connectivity. Although certain digital tools like the library management system (LMS), and electronic databases are reportedly available, others such as institutional repositories and reference management tools are largely perceived as absent or unfamiliar. Moreover, the actual use of available digital tools remains moderate, indicating a need for improved user awareness, digital literacy, and training. To enhance the library's role in academic support, it is crucial to improve infrastructure, promote available services, and empower students to fully utilise both physical and digital library resources and services.

Based on the findings and conclusion, the following recommendations are made:

1. The library should organise regular orientation programmes and workshops to increase students' awareness and effective use of under-utilised services such as reference and circulation.
2. The university should invest in improving library infrastructure by providing more seating, enhancing ventilation, and ensuring consistent internet access to create a more conducive learning environment.
3. Library management should prioritise the acquisition and integration of essential digital tools like institutional repositories and reference management software to support academic research.
4. Targeted user education and hands on training should be provided to help students better understand and use digital tools such as OPAC and online databases effectively.
5. The library should re-design its digital interfaces for better usability and actively promote these platforms through student engagement initiatives, ensuring that all users can use them confidently.

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Warm regards,

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