# User satisfaction with resources and services of Kumasi Technical University Library during the COVID-19 pandemic

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**Abstract**

*A resourceful and well-organized library is an asset to any academic institution and its existence is justified by the extent to which users are satisfied with its resources and services. Nonetheless, globally, library services were affected by the outbreak of the COVID-19 pandemic. This study was therefore focused on determining the level of users' satisfaction with the resources and services of Kumasi Technical University library during the COVID-19 pandemic. The survey method was employed and a questionnaire was used to collect data. Stratified and convenience sampling techniques were used to select 192 respondents but 169 responses were valid for analysis. The findings revealed that, generally, users were satisfied with the physical facilities, services and COVID-19 protocols in the library, though, the library provided poor online services, did not have discussion rooms, some users were not aware of electronic resources and few users did not follow COVID-19 protocols in the library. The study recommends the provision of discussion rooms, improvement in online services, publicity and training on electronic resources and provision of adequate water for handwashing and hand sanitizer.*

**Keywords:** User satisfaction, library resources, library services, COVID-19, Kumasi Technical University

## Introduction

Quality educational facilities and services are critically important for the success of academic institutions, especially in the twenty-first century. One of such important and required facilities is a resourceful library (Verma & Lalrokhawma, 2018). The library is considered the core of any academic institution and as such a very vital facility of the institution. Library resources and services have transformed significantly since the middle of the twentieth century. This transformation is attributed to the rapid advancement in information and communication technologies. As a result, user approval or satisfaction with the library services and resources is very critical in achieving the goals of the institution (Verma & Lalrokhawma, 2018; Okunu, Akalumhe, & Monu, 2011). The need

to assess user satisfaction becomes evident and crucial, especially during the period of the COVID-19 pandemic when teaching and learning transitioned to the digital or virtual environment and libraries had to intensify online services. Library users are the most important stakeholders in libraries and without them, libraries will miss their purpose or fail to exist. The library needs to identify its users, what they need and how to satisfy those needs to meet their expectations. Therefore, user satisfaction has been acknowledged as a critical measure of the library's performance even in face of a pandemic like COVID-19 (Jubb & Green, 2007; Verma & Lalrokhawma, 2018).

In view of the aforementioned, it is expected that academic libraries be stocked with quality resources and materials to operate efficiently to suit

the perpetual varying information needs of users at all times. Adequate resources in the library are very crucial because the available resources determine the effectiveness and efficiency of the library. In other words, they determine how the library could perform its functions to satisfy the information needs of its users to achieve the greater goals of the institution. "The level of user satisfaction with library resources is an essential determinant of the success of the library, and the institution at large" (Yeboah, Adams & Boakye, 2018). The Kumasi Technical University (KsTU) library provides users with efficient resources and services for the information needs of students, faculty, researchers and staff.

In December 2019, a new virus was discovered in China, specifically in a food market in the Wuhan region in China. This virus spread quickly to other countries around the world in the first quarter of 2020. The virus is officially labelled as "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)" commonly called COVID-19 (Jewell, 2020). Considering the rate at which it spread across the globe, the World Health Organization (WHO) declared the disease a pandemic (Kazi-Abdul & Farhana, 2020). Centre for Disease Control Africa (CDC Africa) (2020) regarded the virus as a "communicable respiratory disease caused by a new strain of virus that causes illness in humans". WHO (2020a) defined COVID-19 as "a big virus family that causes ailment ranging from mild to a more acute disease like Severe Acute Respiratory Syndrome (SARS)". The sudden incidence of COVID-19 disrupted different activities throughout the world including individual lives. Morbidity and mortality rates resulting from COVID-19 infections were very alarming, especially in the western world (Ikenwa, Adegbilero-Iwari and Adegbilero-Iwari, 2021). Drastic measures were announced by international organizations, multinational organizations and many countries to reduce the spread of the virus at the initial stages. Educational institutions transitioned to virtual instruction and libraries provided virtual services to their users.

Established in 1954, initially, as Kumasi Technical Institute (K.T.I), Kumasi Technical University started by offering only craft courses. Later in 1963, the institution was converted to a Polytechnic (Kumasi Polytechnic), that is, a non-tertiary category under the Ghana Education Service. It was tasked to offer sub-professional courses and technician diploma programs. Kumasi Polytechnic was elevated by the Polytechnic Law 1992 (that is, PNDC L.321) to a tertiary institution with a mandate to provide highly competent skilful manpower who would help develop industries or sectors such as science and technology, manufacturing and commerce and also act as facilitators for technological advancement. Kumasi Polytechnic was one of the best, most vibrant and famous Polytechnics in Ghana until it was converted to the modern-day Kumasi Technical University by the Technical University Act 2016, (Act 922). The main objective of Kumasi Technical University is to provide higher education in science and technology-based disciplines, applied arts, engineering, vocational and technical training. KsTU is a beautiful institution located in the capital city of the Ashanti Region of Ghana, Kumasi. Within the period of its existence, KsTU has grown to become a significant centre for training not only for Ghanaians but also for other Africans within the West African sub-region and beyond (KsTU, 2016).

## Statement of the problem

Considering the critical role of academic libraries in their mother institutions, Okunu, Akalumhe, and Monu (2011) regard them as the "heart" of academic institutions. They are indispensable facilities that provide the needed support for teaching, learning and research without any doubt. Academic libraries are established primarily to provide information in all forms or formats at all times to satisfy the information needs of their users. As a result, user satisfaction is crucial to the success of academic libraries.

Globally, there is appreciable literature on user satisfaction with academic library resources (Tiemo & Ateboh 2016; Motiang, Wallis, & Karodia, 2014; Ijiekhuamhen, Aghojare, Ferdinand, 2015; & Ikolo, 2015). These studies were mostly focused on the traditional universities. In Ghana, the few available literature found on user satisfaction with library resources were also focused on the traditional universities and the then polytechnics (Akussah, Asante, & Adu-Sarkodee, 2015; Larson, & Owusu-Acheaw, 2012). There is therefore a research gap in the evaluation of user satisfaction with library resources in technical universities, especially during the COVID-19 pandemic. It is against this backdrop that the researchers made a decision to investigate the level of user satisfaction with resources and services at KsTU library during the COVID-19 pandemic.

## Purpose of the study

The purpose of the study was to find out the

extent to which users were satisfied with the nature and quality of services and resources at KsTU library during the period of the COVID-19 pandemic.

## Objectives of the study

Generally, the study sought to find out the level of user satisfaction with the resources and services of KsTU library. Specifically, the study sought to:

1. Determine the level of users' satisfaction with the physical facilities of KsTU library during the COVID-19 pandemic;

2. Determine the level of users' satisfaction with the collections of KsTU library during the COVID-19 pandemic;

3. Ascertain the level of users' satisfaction with services provided by KsTU library during the COVID-19 pandemic;

4. Determine the level of users' satisfaction with COVID-19 protocols at KsTU library during the COVID-19 pandemic;

5. Identify challenges users faced in obtaining needed information from KsTU library during the COVID-19 pandemic;

## Literature review

Library resources are not just about the library collections but in a broader term, they go beyond the information resources in the library. Library resources include other facilities such as human resources and financial resources that support or help in preparing and making available and accessible, the required and needed information resources to library users. In the view of Shrestha (2018), library resources are information resources that include personnel, facilities and activities or functions of a library intended to help library patrons to fulfil or meet any information requirements they have. Library facilities in this case consist of physical facilities like equipment, library furniture, accommodation, and ICT tools.

One of the indispensable components of an academic library system is the library's physical facilities. The physical facilities of an academic library facilitate access to valuable information in the library. They also help provide library users with the needed and conducive environment which ultimately enriches their satisfaction (Younus & Hussain, 2021). Younus and Hussain (2021) emphasized that the most important physical facilities are the library building itself, lighting system, library furniture, computer and internet facilities and temperature control systems. To render quality services and also meet the constantly changing information needs of users, globally, libraries are doing their best to provide required and suitable facilities for users. Deprived or inadequate library facilities may well affect the efficient functioning of an academic library and influence library user satisfaction negatively.

Staines (2012) states that modern academic libraries are expected to meet universal design criteria – good exterior and interior design, flexible layout, simplified floor design, disability-friendly facilities and compatibility with modern technologies.

Younus and Hussain, (2021) and Sens (2009) "emphasized the need for modern libraries to make provisions for discussion rooms as a shift in pedagogy has made learning more team-oriented rather than individualistic". They argue that discussion rooms are critical for students' success and full utilization of the library. They further added that aside from providing discussion rooms, it is equally important for the library to ensure the availability of a variety of spaces suitable for individual learning that protect their privacy, not the traditional long library tables. Sens reiterate that modern academic libraries should provide specialty spaces such as communication centres, writing centres, tutoring centres, presentation rooms, distance learning rooms for video conferencing, student and faculty lounges, cafés and light dining venues and art galleries.

The design of the library should also make provision for future needs and allow the incorporation of current and future technologies. According to Younus and Hussain (2021) and Sens (2009) every space in an academic library should be infused with appropriate technology. They maintain that library spaces should be carefully planned to include appropriate technological amenities such as:

- Accessible public computers with internet connections
- Videoconferencing facilities
- 3D visualization space
- Projection systems for presentations
- Outlets for charging personal devices such as cell phones and laptops

The primary role of academic libraries is to build good quality information resources to support teaching, learning and research in academic institutions. The collections should be able to match up or correspond to the information needs of library users in their parent institutions (Younus, & Hussain, 2021). To this end, Mason (2010) pointed out that the mission of the academic library is building and preserving different

kinds and forms of library collections that support and supplement instructional requirements or needs of the institution. In that case, academic libraries should provide access to all forms and formats of information at all times irrespective of geographical location.

Nzivo (2012) indicated that print materials were the traditional sources of information in libraries. Yet, with the emergence of ICT and pandemics like COVID-19, academic libraries are being compelled to serve their users with information sources in all formats, especially with digital or electronic resources such as eBooks and electronic journals (Dadhe & Dubey, 2020). Collection development, thus, is being geared towards electronic resources. Electronic resources are gradually becoming an indispensable part of contemporary academic libraries resulting in a shift in user information needs (Amarasekara & Marasinghe, 2020). This was confirmed in a study by Tripathi and Jeevan (2013) who observed researchers are now shifting to electronic journals. As a result, libraries should acquire different types of resources in all formats, that is, both print and non-print forms. Indeed, some studies on electronic resources such as Ndou (2021) and Boakye (2017) show that there is a fundamental change from print to electronic resources and that electronic resources are better preferred than their print counterpart. Academic library collection should therefore include electronic resources such as electronic books, electronic journals, computer software and online databases.

The Covid-19 pandemic tragically affected the entire world with a major impact on areas or sectors such as education, the economy, businesses and others. To minimise the losses and survive the disease, many educational institutions transitioned to the virtual environment. The help of technology enabled them to offer online services to their community (Medawar & Tabet, 2020). World Health Organization (2020b) defines Covid-19 as an "infectious disease caused by the newly discovered coronavirus". The pandemic spread and had a major impact on almost all activities on the globe. Libraries, especially academic libraries were also seriously affected by the pandemic, not only in terms of their physical space but also their collection and services were affected. Librarians had to provide patrons with virtual support in activities such as research, borrowing, events and digital supplies. This support was offered through websites, emails and social media platforms like LinkedIn, Facebook, Twitter and Instagram (Ikenwa, Adegbilero- Iwari, & Adegbilero-Iwari, 2021). Due dates for the return of library materials were extended and the Inter-lending/ Inter-library Loan and Document Supply helped a lot of patrons to get materials online (Medawar & Tabet, 2020). Some notable publishers and online book vendors like Taylor and Francis, Elsevier, Wiley and VitalSource made their publications freely available online for users. Users had no option but to resort to electronic resources like electronic books, journals, theses, websites, serials and the like. National and International organizations like the American Library Association (ALA) and the International Federation of Library Associations and Institutions (IFLA) also launched initiatives to make quality resources freely available to users in controlling the COVID-19 pandemic (ALA, 2020; IFLA, 2020).

User satisfaction has been a major concern for academic libraries for many years because it goes a long way to explain and justify the significance of the library. According to Motiang, Wallis and Karodia (2014), user satisfaction is an exercise to assess the quality of a service or a product to determine whether it meets the user's expectations and needs or not. Ikenwa and Adegbilero-Iwari (2014) view user satisfaction as "the feelings the users get after using the library resources and services, and the decision made to either come back to the library next time they have information needs or not to come back". An academic library mainly exists to satisfy the information needs of its users (Amarasekara & Marasinghe, 2020), and thus user satisfaction is very pivotal in justifying the continued existence of the library and the need to commit more resources to the library. Ijiekhuamhen, Aghojare and Ferdinand (2015) stated that the mission of the library and for that matter, the librarian, is to provide quality services and information resources to satisfy the information needs of users. As such, there is a need to have a better understanding of user expectations and their specific information needs. Motiang et al. (2014) supported this argument by stating that the library can achieve its mission only when it can meet users' expectations and also satisfy their information needs. They maintain that "satisfaction may lead to users using the services of the library over and over again, and even recommending it to others" (Motiang, Wallis, & Karodia, 2014, p.42). As a result, user satisfaction may be deemed as a more reliable and perhaps, the best measure for ascertaining library efficiency and effectiveness as argued by Motiang et. al (2014).

Globally, academic libraries are placing users at the centre of their affairs since users justify the relevance of a library (Adeniran, 2011; Saika & Gohain,

2013; Hussain & Abalkhail, 2013). In Africa, various studies in various settings show different results – some showing a higher level of user satisfaction with library resources and others showing the contrary (Tiemo, 2016; Ikolo, 2015; Motiang, Wallis, & Karodia, 2014; Namugera, 2014)

In Ghana, the trend of user satisfaction with library resources is not much different from what prevails in the rest of the African countries. The extent of user satisfaction varies from one resource to the other. Such results are shown in studies such as Larson and Owusu-Acheaw (2012) and Filson and Agyekum (2014). A study conducted by Ababio, et al. (2012) at Kumasi Polytechnic (now Kumasi Technical University) on students' satisfaction with library resources suggests that 57% and 30.8% graded the overall service quality as good and moderate respectively, whiles 4.3% rated it as poor. However, only 6.7% rated the overall service quality as excellent. The finding of the study identified the availability of current and relevant materials, adequate user instructions, reliable internet facilities as well as friendly and helpful library staff as the key influential factors in the rating for the overall service of the library.

Users of academic libraries faced various challenges stemming from their limited skills and limitations posed by the library resources and facilities. According to Medawar and Tabet (2020) users could not access the physical library space, physical collection and services during the COVID-19 pandemic because most of the libraries were closed as nations were locked down. In dealing with the lockdown, users were left with the option of using digital resources and services only. In examining the reading habits of some volunteers during the COVID-19 pandemic in India, Parikh, Vyas, & Parikh (2020) found that lack of dependable, fast, secure and strong access to electronic resources was major challenges users faced in using the electronic resources remotely. They also identified the lack of internet bandwidth for users who were in isolation for contracting the COVID-19 disease as one of the challenges. This was important in helping such users to have or sustain the right mental health throughout the isolation period.

In Africa, poor ICT infrastructure happens to be a major challenge in carrying out any technology-related projects. Observations made by Davies et al. (2019) showed stakeholders do not give the needed attention to the technological infrastructure that could facilitate important projects in developing countries such as Ghana and Nigeria. As a result, emergencies like COVID-19 become difficult to handle due to poor ICT infrastructure. Gillwald, Odufuwa and Mothobi, (2018) indicated that literature consistently shows that such technological projects suffer bad management, total neglect and theft among others. Ifijeh and Yusuf (2020) also mentioned that budget cuts in Nigerian libraries make it difficult for the libraries to acquire the software and hardware needed to maintain continuous support for academic activities.

The literature review shows that most academic libraries, especially those in Africa, have serious challenges concerning infrastructure and limited budget in offering digital services, though, these factors are known to determine user satisfaction. Literature indicates that, in developed countries, user satisfaction with library resources is higher than that in developing countries. This could be linked to the difference in the library resources and services in these regions

## Methodology

The survey research method was used for the study considering the large population size and also to ensure generalization from sample to population. Punch (2014) states that the survey method is used to study a group of people or items by collecting and analysing data from only a few people or items that represent the entire group of people or items. The survey research method was therefore employed by the researchers to facilitate the collection of quantitative data for analysis to understand the underpinning factors of library user satisfaction during COVID-19 and to make generalizations as well.

The population for the study consisted of all the students in the Faculty of Applied Sciences and Technology, KsTU. This faculty was selected because it would have been particularly challenging taking into account the cost and other resources that would be involved in including the entire student population in the study. Also, the selected faculty has similar structures to all the others and for that reason, the findings could be generalised. The Faculty of Applied Sciences and Technology is made up of four departments namely: Computer Science, Hotel Catering and Institutional Management, Mathematics and Statistics as well as Information Science. Table 1 below gives the breakdown of the total population.

**Table 1.** Population of students in Faculty of Applied Sciences and Technology, KsTU

| Department | Population Size |
|---|---|
| Computer Science | 817 |
| Hotel Catering and Institutional Management | 590 |
| Mathematics and Statistics | 308 |
| Information Science | 118 |
| **Total** | **1,833** |

Source: Fieldwork, 2022.

According to Bryman (2016) and Neuman (2006), for a population under 1000, a researcher requires a sampling ratio of about 30%. However, for a reasonably large population that is 1000, a lesser sampling ratio of about 10% is needed to be similarly precise. Based on the above, the researchers used 10% of the total population which is 192 to obtain satisfactory assurance in the population and to have a good chance of identifying a significant result. Table 2 below gives the number of students selected from each faculty for the study.

**Table 2.** Number of Respondents selected from each Department

| Faculty of Applied Sciences and Technology, KsTU | | |
|---|---|---|
| Department | Population Size | Sample Size (10%) |
| Computer Science | 817 | 82 |
| Hotel Catering and Institutional Management | 590 | 59 |
| Mathematics and Statistics | 308 | 39 |
| Information Science | 118 | 12 |
| **Total** | **1,833** | **192** |

Source: Fieldwork, 2022.

To obtain the target population, the stratified and convenience sampling techniques were used to select students from the different departments in the Faculty of Applied Sciences and Technology. To group the number of departments under the Faculty of Applied Sciences and Technology into different strata, a stratified sampling method was used. On the other hand, convenience sampling was used to select respondents from the different departments under the Faculty. Creswell (2014) stated that stratification indicates that certain or specific qualities of individuals are represented in the sample and that shows the true proportion in the population of individuals with particular characteristics. The researchers decided on the choice of these sampling units based on their convenience. This covered all the departments and respondents located in lecture halls, libraries and halls/hostels. A structured questionnaire consisting of a series of questions and other prompts to gather information from respondents was used for the study. The study used primary data whose source was the questionnaire that was administered. Secondary sources used for the study also included journal articles, usage reports and other related works. The questionnaire was administered by the researchers personally. This took place in the second week of January 2022. The data collection process for the questionnaire took two weeks. The Statistical Package for Social Sciences (SPSS) Version 25 was used in analyzing the data. Data was presented in frequencies and percentages using tables among variables selected for clearer presentation. All ethical issues concerning anonymity and confidentiality were observed by the study. The Kumasi Technical University's code of ethics was also adhered to.

## Data analysis and discussion of findings

The data was analyzed in line with the objectives as indicated in chapter one. The results have been organized and presented in tables showing frequencies and percentages of responses given by respondents. A total of 192 copies of the questionnaire were distributed to respondents. However, 169 questionnaires were returned and found valid for analysis. This indicates a response rate of about 88%. According to Babbie (2005) a response rate of 50% is adequate for analysis and reporting in survey research. He further stated that 60% is good and 70% is very good. Therefore, a response rate of 88% could be considered excellent. In the analysis, the percentage figures have been rounded to one decimal place.

### *Gender Distribution*

Out of the total of 169 questionnaires returned and analyzed, 104(61.5%) of them were males while the remaining 65(38.5%) were females. This was particularly done to avoid a situation where the study is skewed towards a specific gender and also to ensure the inclusion of views from the two gender to offer realistic demographic results. Table 3 explains this better.

**Table 3.** Gender Distribution

| Gender | Frequency (n) | Percentage (%) |
|--------|---------------|----------------|
| Male | 104 | 61.5 |
| Female | 65 | 38.5 |
| Total | 169 | 100.0 |

*Source: Field data, 2022*

### *Programme distribution of respondents*

Table 4 below presents the various departments of the respondents. The table depicts that most of the respondents who took part in the study were Hotel, Catering and Institutional Management students. This represents 50(29.6%) of the respondents. This is followed by students from the Information Science Department representing 49(29.0%), while, the remaining departments, being Computer Science and Mathematics and Statistics recorded 37(21.9%) and 33(19.5%) respectively. This indicates that the study included a cross-section of students from the Faculty of Applied Sciences, Kumasi Technical University to have a fair view of the issues at stake.

**Table 4.** Programme Distribution of Respondents

| Department | Frequency (n) | Percentage (%) |
|------------|---------------|----------------|
| Computer Science | 37 | 21.9 |
| HCIM | 50 | 29.6 |
| Mathematics and Statistics | 33 | 19.5 |
| Information Science | 49 | 29.0 |
| Total | 169 | 100.0 |

*Source: Field data, 2022*

### *Age distribution of respondents*

As indicated in Table 5, most of the respondents fell between the ages of 20-23 years recording 87(51.5%) out of the total of 192 respondents. This was followed by the 24-27 year range 48(28.4%) and the remaining year ranges, that is, below 20 years and 28 years and above recorded 17(10.1%) each.

### *Level of Satisfaction with Physical Facilities of KsTU Library*

The first objective of the study was to determine the level of users' satisfaction with the physical facilities of KsTU library during the COVID-19 period. User satisfaction with library facilities during the pandemic is very critical for the success of any academic library since it is an indication of the perceived quality of the library facilities.

**Table 5.** Distribution of Respondents

| Age | Frequency (n) | Percentage (%) |
|-----|---------------|----------------|
| Below 20 yrs | 17 | 10.1 |
| 20-23 yrs | 87 | 51.5 |
| 24-27 yrs | 48 | 28.4 |
| 28 yrs and above | 17 | 10.1 |
| Total | 169 | 100.0 |

*Source: Field data, 2022*

Khan and Bhatti (2012) also add that poor physical facilities affect user satisfaction. Using a Likert scale, respondents were asked to indicate their level of satisfaction with the library building (library building design, library location, reading space and library furniture). The results are shown in Table 6 below.

It is quite clear from table 6 that respondents were very satisfied with the facilities at KsTU Library during the COVID-19 pandemic. The majority of the 98(58%) were very satisfied with the reading space, the library's furniture and computer facilities while 83(49.1%), 81(47.9%) and 51(30.2) they were very satisfied with the library's design, location and internet connectivity and accessibility respectively. Also, 118(69.8%) and 86(50.9%) of the respondents were satisfied with the connectivity and accessibility of the library building design respectively. Again, 71(42.0%) were satisfied with the library's location, reading space and furniture respectively. Some of the respondents, 17(10.1%) were dissatisfied with the location of the library. Unfortunately, the library did not have any discussion room. Despite all these, Table 6 shows that 50(29.6%) of respondents were very satisfied with the overall facilities of the library and 119(70.4%) of respondents were satisfied with the overall facilities of the library.

These findings support that of Hussain and Abalkhail (2011) which revealed that the majority of the users were satisfied with most of the library

facilities. The findings also align with the findings of Tiemo (2016) who found that users were not completely dissatisfied with facilities at the College of Health Science Library, Niger Delta University, Nigeria, despite the fact the users had issues with resources and services.

**Table 6**. User Satisfaction with Physical Facilities at KsTU Library during the COVID-19 Pandemic

| Physical Facilities | Very Satisfied (%) | Satisfied (%) | Dissatisfied (%) | Very Dissatisfied (%) | Total (%) |
|---|---|---|---|---|---|
| Library building design | 83(49.1) | 86(50.9) | 0(0.0) | 0(0.0) | 169(100) |
| Location of the library | 81(47.9) | 71(42.0) | 17(10.1) | 0(0.0) | 169(100) |
| Reading space | 98(58.0) | 71(42.0) | 0(0.0) | 0(0.0) | 169(100) |
| Library furniture | 98(58.0) | 71(42.0) | 0(0.0) | 0(0.0) | 169(100) |
| Computer facilities | 98(58.0) | 71(42.0) | 0(0.0) | 0(0.0) | 169(100) |
| Internet connectivity and accessibility | 51(30.2) | 118(69.8) | 0(0.0) | 0(0.0) | 169(100) |
| Discussion room | 0(0.0) | 0(0.0) | 0(0.0) | 0(0.0) | 169(100) |
| Overall physical facilities | 50(29.6) | 119(70.4) | 0(0.0) | 0(0.0) | 169(100) |

*Source: Field data, 2022*

### Users' satisfaction with the Library Collection during COVID-19 Pandemic

The second objective of the study was to determine user satisfaction with library collections during the COVID-19 pandemic period. Library users can only get satisfaction from materials they are aware of and use most often. Satisfaction is derived from patronage and patronage depends on awareness. Therefore, awareness is very important. As a result, respondents were asked if they were aware of library materials shown in table 7.

**Table 7.** Awareness of Library Collection/Materials at KsTU during the COVID-19 Pandemic

| Library collection/ materials | Yes (%) | No (%) | Total (%) |
|---|---|---|---|
| References sources (e.g Dictionaries, Encyclopaedias, Year-books) | 169 (100) | 0(0.0) | 169 (100) |
| Textbooks | 169 (100) | 0(0.0) | 169 (100) |
| Periodicals (Journals, Newspapers, Magazines, Newsletters) | 169 (100) | 0(0.0) | 169 (100) |
| Electronic materials (E-Journals, E-books, CD-ROM/DVD-ROM | 98(58) | 71(42.0) | 169 (100) |

*Source: Field data, 2022*

From table 7 above, 100% of the respondents were aware of almost all the library materials with exception of electronic resources recorded 58% awareness and 42% unawareness. This suggests that awareness of the traditional library materials (that is, paper-based materials) was higher than that of the electronic resources, though, users required more electronic resources comparatively, especially during the lockdown period when they could not use the physical facilities of the library.

### User Satisfaction with Library Collection/Materials at KsTU during the COVID-19 Pandemic Period

Table 8 below shows the level of user satisfaction with library materials as shown in responses provided by the respondents. The majority of the respondents were very satisfied with the library materials as follows: textbooks 135(79.9%); reference sources 98(58.0%); periodicals 81(47.9%) and electronic materials 64(37.9). However, 71(42.0%) and 17(10.1) of the respondents were dissatisfied with electronic

materials and periodicals respectively as shown in table 8. Moreover, 81(47.9%) of respondents were very satisfied with the overall library materials and 88(52.1%) of them were just satisfied with the general library materials. The findings compare favourably with that of Tiemo (2016) who in his study on the level of user satisfaction with library information resources and services in the College of Health Science Library, Niger Delta University, revealed that the library was faced with a lot of deficiency concerning library

**Table 8.** User Satisfaction with Library Materials at KsTU during the COVID-19

| Library collection/material | Very Satisfied (%) | Satisfied (%) | Dissatisfied (%) | Very Dissatisfied (%) | Total (%) |
|---|---|---|---|---|---|
| References sources (e.g Dictionaries, Encyclopaedias, Year-books) | 98 (58.0) | 71 (42.0) | 0(0.0) | 0(0.0) | 169(100) |
| Textbooks | 135(79.9) | 34(20.1) | 0(0.0) | 0(0.0) | 169(100) |
| Periodicals (Journals, Newspapers, Magazines, Newsletters) | 81(47.9) | 71(42.0) | 17(10.1) | 0(0.0) | 169(100) |
| Electronic materials (E-Journals, E-books, CD-ROM/DVD-ROM | 64(37.9) | 34(20.1) | 71(42.0) | 0(0.0) | 169(100) |
| Overall library collections/materials | 81(47.9) | 88(52.1) | 0(0.0) | 0(0.0) | 169(100) |

*Source: Field data, 2022*

resources. Ifijeh and Yusuf (2020) also found similar results from a study on COVID-19 in Nigeria.

### User Satisfaction with Services Provided by KsTU Library during COVID-19 Pandemic

The third objective of the study was to find out users' satisfaction with services provided by the library. However, users cannot use services they are not aware of. As such, respondents were asked to indicate their awareness of the services provided by the library. Table 9 responds to respondents.

**Table 9.** Awareness of Library Services

| Library Service | Yes (%) | No (%) | Total (%) |
|---|---|---|---|
| Reference/ Information Service (*assisting you to locate your information sources*) | 169(100) | 0(0) | 169(100) |
| Circulation services (*lending of library materials to you*) | 169(100) | 0(0) | 169(100) |
| User education | 152(89.9) | 17(10.1) | 169(100) |
| Reprographic Services (Photocopy & printing) | 152(89.9) | 17(10.1) | 169(100) |

*Source: Field data, 2022*

Table 9 shows that 100% of respondents were aware of reference/information services and circulation services. User education and reprographic services recorded 89.9% awareness each. On the other hand, 17% of them were not aware of user education and reprographic service. This is an indication that user education and reprographic services were not as popular as circulation and reference/information services in KsTU library during the COVID-19 period.

### User Satisfaction with Services Provided by KsTU Library during COVID-19 Pandemic

As part of the objectives, the study sought to determine the level of user satisfaction with services provided by the library. As shown in Table 10, 47.9% of respondents showed that they were very satisfied with

reference/information and user education services and 37.9% of respondents indicated that they were satisfied with circulation and reprographic services. The level of satisfaction with the overall services provided by the library as provided by respondents is that 47.9% of them were very satisfied while 52.1% of them were satisfied.

The finding on reprographic service contradicts a study on user satisfaction with library services at the University of Limpopo by Motiang, Wallis, and Karodia (2014) who found that majority of the respondents were dissatisfied with the reprographics service rendered and Saika and Gohain (2013), in a similar study also revealed that only 30.19% of respondents were satisfied with reprographic services by the Tezpur University library. Again, the findings support that of Namugera (2014) who, in his study on users' awareness, perceptions and usage of Makerere University Library Services, found that the respondents were satisfied with the reference services provided by the library.

### User Satisfaction with COVID-19 Protocols at KsTU Library

Adherence to COVID-19 protocols during the pandemic period was very important to avoid the spread of the disease. As such, the study sought to find out from respondents if they were satisfied with the protocols the library put in place. However, the study first sought to determine the level of awareness of the protocols among the respondents and table 4.9 shows the results.

**Table 10.** Level of User Satisfaction with Services Provided by KsTU Library during COVID-19 Pandemic

| Library Service | Very Satisfied (%) | Satisfied (%) | Dissatisfied (%) | Very Dissatisfied (%) | Total (%) |
|---|---|---|---|---|---|
| Reference/Information Service (*assisting you to locate your information sources*) | 81(47.9) | 88(52.1) | 0(0) | 0(0) | 169(100) |
| Circulation services (*lending of library materials to you*) | 64(37.9) | 105(62.1) | 0(0) | 0(0) | 169(100) |
| User education | 81(47.9) | 71(42.0) | 0(0) | 0(0) | 169(100) |
| Reprographic Services (Photocopy & printing) | 64(37.9) | 85(50.3) | 20(11.8) | 0(0) | 169(100) |
| The overall services of the library | 81(47.9) | 88(52.1) | 0(0) | 0(0) | 169(100) |

*Source: Field data, 2022*

**Table 11.** Awareness of COVID-19 Protocols at KsTU Library

| COVID-19 Protocols | Yes (%) | No (%) | Total (%) |
|---|---|---|---|
| Handwashing | 169(100) | 0(0) | 169(100) |
| Sanitizing | 51(30.2) | 118(69.8) | 169(100) |
| Physical distancing | 169(100) | 0(0) | 169(100) |
| Patrons on facemask | 116(68.6) | 53(31.4) | 169(100) |
| Library staff on facemask | 133(78.7) | 36(21.3) | 169(100) |
| Notices on COVID-19 | 132(78.1) | 37(21.9) | 169(100) |

*Source: Field data, 2022*

From Table 11 all the respondents (100%) were aware of handwashing and physical distancing at the library. That notwithstanding, librarians on facemask was 78.7%, notices on COVID-19 was 78.1%, patrons on facemask was also 68.6% and 30.2% of the respondents were aware of sanitizing. On the other hand, 69.8% of the respondents were not aware of sanitizing at the library, 31.4% of them

were not aware of patrons on facemask, 21.9% were not aware of notices on COVID-19 and finally, 21.3 was also not aware of library staff on facemask. The findings support that of Ikenwa, Adegbilero-Iwari and Adegbilero-Iwari (2021) who also found that respondents were very much of COVID-19 protocols in a survey on COVID-19 information dissemination behavior in Nigeria.

### *Level of Satisfaction with COVID-19 Protocols at KsTU Library*

As part of the objectives, the study sought to determine the extent of user satisfaction with COVID-19 protocols at KsTU library and Table 4.10 displays the results of the responses.
As displayed in Table 12, most of the respondents were

very satisfied with handwashing at the entrance of the library (68%), some of them were also very satisfied with library staff on facemask (48.5%), 47.0% of them were also very satisfied with physical distancing and notices on COVID-19, 30.2% were also very satisfied with sanitizing and 19.5% of them were very satisfied with patrons in facemask. However, 69.8% of the respondents were dissatisfied with sanitizing at the library, 40.2% were dissatisfied with patrons in facemask, 21.3% were also dissatisfied with the library staff in facemask and 20% were dissatisfied with notices on COVID-19. Overall, 39.1% of the respondents were very satisfied COVID-19 protocols in KsTU library, 49.1% were just satisfied with the protocols and only 11.8% were dissatisfied with the protocols. The findings corroborate the findings of Ikenwa, Adegbilero-Iwari

**Table 12.** Level of Satisfaction with COVID-19 Protocols at KsTU Library

| COVID-19 Protocols | Very Satisfied (%) | Satisfied (%) | Dissatisfied (%) | Very Dissatisfied (%) | Total (%) |
|---|---|---|---|---|---|
| Handwashing | 115(68) | 54(32) | 0(0) | 0(0) | 169(100) |
| Sanitizing | 51(30.2) | 0(0) | 118(69.8) | 0(0) | 169(100) |
| Physical distancing | 81(47.9) | 88(52.1) | 0(0) | 0(0) | 169(100) |
| Patrons on facemask | 33(19.5) | 68(40.2) | 68(40.2) | 0(0) | 169(100) |
| Library staff on facemask | 82(48.5) | 51(30.2) | 36(21.3) | 0(0) | 169(100) |
| Notices on COVID-19 | 81(47.9) | 68(40.2) | 20(11.8) | 0(0) | 169(100) |
| The overall COVID-19 protocols in the library | 66(39.1) | 83(49.1) | 20(11.8) | 0(0) | 169(100) |

*Source: Field data, 2022*

and Adegbilero-Iwari (2021) who also found that respondents were mainly satisfied with notices on COVID-19.

### *Challenges KsTU Library Users faced during COVID-19 Pandemic*

The last objective of the study was to identify challenges users faced in obtaining needed information from KsTU library during the COVID-19 pandemic. Challenges or limitations generally prevent effective and efficient access and utilization of library

services. Given that, respondents were asked to provide information on some of the limitations they encountered in using KsTU library. Table 13 presents the results:

**Table 13.** Challenges KsTU Library Users faced during the COVID-19 Pandemic

| Challenges | Response (n) | Frequency (%) |
|---|---|---|
| Inadequate water for handwashing | 54 | 17.6 |

| Challenges | Response (n) | Frequency (%) |
|---|---|---|
| Poor online library services | 54 | 17.6 |
| Inadequate hand sanitizer | 49 | 16.0 |
| Poor lighting system | 50 | 16.3 |
| Poor internet service | 50 | 16.3 |
| Lack of awareness of electronic resources | 50 | 16.3 |
| Total | 307 | 100.0 |

*Source: Field data, 2022*

One could observe from table 13 that the challenges KsTU library users faced during the COVID-19 period were poor online library services 54(17.6%), inadequate water for handwashing 54(17.6%), lack of awareness of electronic resources 50(16.3%), poor internet service 50(16.3%), poor lighting system 50(16.3%) and inadequate hand sanitizer 49(16.0%). The findings are in line with that of Khan, Bhatti, Khan, and Ismail (2014) who identified challenges such as inadequate library collections, insufficient physical facilities, poor computer facilities and poor library services as some common challenges that users of academic libraries usually faced. Ifijeh and Yusuf (2020) in a study on COVID-19 pandemic and the future of Nigeria's University system, also found a lack of technological infrastructure as one of the major challenges users faced during the COVID-19 pandemic period.

### *Suggestions to Improve on Services and Resources at KsTU Library during COVID-19 Pandemic*

The study came out with some suggestions to help improve access and use of KsTU library services and resources during the COVID-19 pandemic period. The three most important suggestions for this effect were; to improve online services 52(16.1%), the library should add novels to the collection 51(15.8%) and there should be more notices in the library 50(15.5%) as shown in table 14 below.

**Table 14.** Suggestions to Improve on Services and Resources at KsTU Library during COVID-19 Pandemic

| Suggestions | Response (n) | Frequency (%) |
|---|---|---|
| Replace faulty air-conditioners | 34 | 10.6 |

| Suggestions | Response (n) | Frequency (%) |
|---|---|---|
| Provide more computers | 37 | 11.5 |
| Improve online services | 52 | 16.1 |
| More staff should be available to assist users | 49 | 15.2 |
| There should be more COVID-19 notices in the library | 50 | 15.5 |
| The lighting system should be improved | 49 | 15.2 |
| The library should add novels to the collection | 51 | 15.8 |
| Total | 322 | 100.0 |

*Source: Field data, 2022*

Responses from table 14 show that prominent suggestions to improve the collection and services of KsTU library include improvement in online services, the addition of novels to the library collection, more notices on COVID-19, improved lighting system in the library and the availability of staff to assist users with their information needs. These will go a long way to help users to get the best out of the library.

### Findings

The study sought to determine the level of users' satisfaction with the physical facilities of the library. The findings revealed that library users were very satisfied with the overall physical facilities of the library generally, though, the library does not have discussion rooms and a few users were also dissatisfied with the location of the library.

Also, the second objective was to determine user satisfaction with KsTU library collections during the COVID-19 pandemic. The study found that users were generally satisfied with the library collections, specifically, reference sources and textbooks. However, some of them were dissatisfied with periodicals and especially electronic materials.

Again, on users' satisfaction with services provided by KsTU library, it emerged from the study that users were largely satisfied with KsTU library services. Nonetheless, a few of them were dissatisfied with reprographic services.

Regarding user satisfaction with COVID-19 protocols, the study found that users were most satisfied with the COVID-19 protocols in the library. Nevertheless, most of the users were dissatisfied with

sanitizing and a few were also dissatisfied with patrons in facemask.

Finally, the study identified inadequate water for handwashing, poor online library services, poor internet services, lack of awareness of electronic resources and inadequate hand sanitizer as challenges users faced in obtaining needed information from KsTU library during the COVID-19 pandemic.

## Conclusion

It can be concluded based on the findings that users of KsTU library are generally satisfied with the library's facilities except for the discussion room that the library does not have, though, modern day learning has become more of a team-focused rather than individually oriented. To render quality services and also meet the constantly changing information needs of users, globally, libraries are doing their best to provide required and suitable facilities for users. Apart from electronic materials, the users were satisfied with the rest of the collection. The reason for users' dissatisfaction with the electronic materials came out in the challenges they faced in accessing information in the latter part of the study. This included a lack of awareness and poor internet connectivity. A few users were dissatisfied with reprographic services. In terms of the COVID-19 protocols, a reasonable number of users were dissatisfied with sanitizing and patrons on facemask which needs serious attention from the management of the library.

## Recommendations

Based on the findings of the study, the following recommendations are made:

The findings revealed that the library does not have discussion rooms. In a twenty-first Century library, there is the need to provide discussion rooms because there is a constant shift in pedagogy or teaching and learning which is leaning toward team-oriented learning rather than individualistic learning. As a result, discussion rooms are critical for users' satisfaction and full utilization of the library, though, it is equally important for the library to ensure the availability of a variety of spaces suitable for individual learning that protect their privacy.

With the outbreak of the COVID-19 pandemic, libraries transitioned to virtual services to prevent the spread of the disease while ensuring that users continue to obtain the needed information from the library. As such, it is necessary to provide efficient and effective online or virtual services in a form of user-friendly websites where users can easily access electronic resources or materials, ask-a-librarian window or menu where users can interact with library staff when they need assistance, social media handles, training tutorials or videos on how to use the resources amongst others.

It is also recommended that KsTU library employs efficient marketing schemes to publicize the number of electronic resources available from the library in solving the issue of lack of awareness of electronic materials. Publicity and promotion of electronic materials can be done in several ways which include periodically organizing sensitization and demonstration workshops and seminars on e-journals for users. This can also serve or meet training needs. The library can also circulate information on e-journals throughout the university community as a whole. Users of KsTU library also need to have the expertise or skills required to exploit the electronic resources. The library may organize virtual orientation and special virtual training sessions to teach users about using the electronic materials.

As found by the study, the majority of the users were not satisfied with the water provided by the library for handwashing as part of the protocols before users are allowed to enter the library. As a result, it is recommended that adequate water be made available for handwashing at all times.

It is also recommended that sufficient sanitizer be provided for users both at the entrance and on the reading or study desks for users and that will take care of the inadequate hand sanitizers identified as one of the challenges users faced.

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