

Exploring the perceived level of satisfaction with the quality of library services in university libraries in Tanzania

✉ **Kaishe-Mulungu Dativa Donati**¹

✉ **Consolata Angelo(PhD)**²

✉ **Mugyabuso J.F. Lwehabura (Prof.)**³

Abstract

This study aimed at exploring the perceived level of satisfaction with the quality of library services (QLS) on university libraries in Tanzania. Specifically, the study analysed the extent to which the library services influences library users' level of satisfaction and assess how library users perceive their satisfaction with the quality of library services. The study used a cross-sectional research design. Simple random sampling and purposive sampling procedures were used to select 397 respondents and 68 key informants respectively. Questionnaires and interviews were used to collect data. The data were analysed using SPSS tool version 20th and content analysis. The key findings revealed that 75% of library staff were approachable, polite, friendly, empathetic, available to respond timely to users needs. Moreover, 61.2% indicated that time provided for using the library was adequate for users and results from binary logistic regression shows that noise, poor photocopy services, lack of air condition, lack of weekend services and early closing time had statistically significance influence on users satisfaction with library services. Moreover, the study found that 38% opined that a good library provides users with advisory services; Sufficient collection was mentioned by 33.8%. Seating arrangements and attractive environment to learn was rated at 47.9%. However, 13% disagreed that a good library provides reservation/booking services. The study therefore concluded that library users were satisfied by the university libraries services in terms of library collection, library environment, staff, facilities and services provided. The study recommended that library management should strive to have a number of services some of which include current collection/facilities, conducive environment, trained staff, adequate furniture and so on.

Keywords: Library users, Librarians perception, quality of library services, University Libraries, Tanzania.

1 Kaishe-Mulungu Dativa Donati, Mzumbe University, Main Campus Morogoro Tanzania, E mail; dkaishe@mzumbe.ac.tz,

2 Consolata Angelo(PhD), University Sokoine University of Agriculture, Solomon Mahalangu Campus Department of Informatics and Information Technology (DIIT) College of Natural and Applied Sciences, Email: consolata.angelo@sua.ac.tz

3 Mugyabuso J.F. Lwehabura (Prof.), Sokoine University of Agriculture, Solomon Mahalangu Campus Department of Informatics and Information Technology (DIIT) College of Natural and Applied Sciences, E:Mail: mugyabuso.lwehabura@sua.ac.tz

1.1 Introduction

The major functions of university libraries is to support and contribute to university activities which includes teaching, learning research and consultancy. The library acquire information materials, catalogue, classify/organize information and disseminate it according to the needs of its users. Information has been identified as important key to cover all development of human being (United Nation, 2022). According to Robinson (2022) academic library is the central organ of the university, in which together with good laboratories and faculties form an important parameter of judging the status of the university. On the other hand, Mubofu *et al.* (2020) described library as an establishment charged with the responsibility for acquiring books, making them accessible to those who require them and converting every person in its neighbourhood into habitual library goers and readers. Therefore, the library must create a balance between specific research and information needs and a usable collection of information materials to meet the need of the university's academic programmes. According to Ashilungu & Onyancha (2024), an academic library has the mission to build and maintain a collection that will support and enhance the academic needs of the university and provide access to all sources of information. Similarly, Khan & Shahzad (2024) observes that, the role of the university library is to achieve academic excellence and thus; the library has to play vital role since a university is incomplete without a good library.

Studies have shown strong correlations between information quality and use as well as between user perceptions and satisfaction. These relationships have been influencing changes in library operations towards improving the quality of library services provision (LSP) (Shahzad *et al.*, 2021). Rapid technological advancements in information science studies have changed how libraries provide services. It has redefined how information is collected and increased demands on the skills of library staff, library facilities, and the entire infrastructure of libraries (Vijayalatha, 2023).

The increased expectations of library users have necessitated library decision makers to strategize ways to better their service expectations and enhance their experience with library information services provision (LISP). Consequently, users conduct post-utilization evaluations to gauge satisfaction levels and assess the perceived quality of library service provision (LSP).

Enhancing user satisfaction is central for the success of service-oriented organizations, including libraries. Satisfied users tend to remain loyal, have positive feelings, and recommends the services to other users. According to Kaushik (2022), service quality is determined by users' assessment of their experience with the product or service. This study aimed at exploring the perceived level of satisfaction with the quality of library services on university libraries in Tanzania. It focused on five key entities: library staff, library services, library collection, library as a place, library facilities, and how they impact the actual experience of library users and their satisfaction levels.

1.2 Problem Statement

The impact of perception on the utilization of university library resources and facilities cannot be underestimated. According to Khan & Shahzad (2024), there has been a shift from traditional library services to a modern approach. This shift has influenced how library users perceive information services offered and how they utilize it. Additionally, the rise of ICTs has led to increased access to information through the internet, resulting in decreased interest in traditional library services. This, in turn had a negative impact on the reputation and relevance of libraries (Idowu & Oso, 2022; and Mushi *et al.*, 2020). While this shift from traditional library service provision is well documented from other studies above, the situation is opposite from Tanzanian experience, where the perceptions and satisfaction of university libraries exhibiting hybrid environment services is unknowns. This warranted the present study.

1.3 Objective of the study

The main objective of this study was to explore the level of users perception on quality of library services for enhancing satisfaction in academic libraries in Tanzania context. Specifically the study sought to;

- To analyze the extent to which the library services influences library users' level of satisfaction and
- To assess how library users perceive their satisfaction with the quality of library services.

The study was guided by the following question

1. How do various type of services contribute to overall satisfaction of library users?
2. What factors shape users' perceptions on quality services?

2.0 Literature Review

Literature has been reviewed based on specific objectives:

2.1 The impact of library services on the overall satisfaction of its user

The services, amenities, staff efficiency, and manners all of which address the information demands of library users have a direct impact on how satisfied library users are. According to (Jinendran & Kumar 2023) on analysis of academic libraries' collection development, space planning, futuristic technologies, and information services, the library of the future will serve as a knowledge refinery and visually pleasing and emotionally charged social hub. Future difficulties include creating innovative products and services and raising the caliber of library employees. Therefore, it is indisputable that users satisfaction with the library's space, collection, services, personnel, and facilities has a substantial impact on how often users use the resources provided and how well their needs are met. User satisfaction in the library serves as a vital indicator of service quality in the library setting (Aminu & Trivedi, 2022). However,

failure to provide the required quality of services could lead to dissatisfaction. Given the significant responsibilities of library staff in provision of services, it is crucial for every library to enhance the skills and knowledge of its librarian workforce (Saragih *et al.*, 2021). While many library users have demonstrated the impact of library services on their satisfaction, there are still questions about the specific services that should be offered to meet users' needs. Therefore, this study aims to determine the extent to which library services influence user satisfaction levels by using a five-point Likert scale to evaluate various services provided by the university libraries, focusing on library facilities, services, staff, collection and place.

2.1.1 Library services

The Library offers a range of services to cater to the needs of its users. These services include Circulation Service, Reference Service, Online reservation of books, Recommendation of library material, Current Awareness Service, Inter Library Loan Service, Photocopying / Printing Service, Orientation and Information Sessions, Selective Dissemination of Information, Audio visual facilities services, catering and refreshment services. According to Mushi, *et al.* (2023), both public and private academic libraries in Tanzania, are responsible for ensuring user satisfaction and maximizing the value of investment in those libraries. Tanzania has a total of 30 universities, 12 being government-owned and 18 privately owned. Each university has at least two libraries, depending on the number of campuses. Most libraries have embraced modern technology and provide internet access, making it convenient for users to access online learning resources (URT, 2022).

The university library's primary role to acquire and maintain collection of learning resources to meet the needs of its users. Libraries provide services through various online platforms. According to Ofori *et al.* (2020), platforms such as Net Library and handheld e-book readers such as Rocket eBook or Soft Book, e- learning promote the available or newly acquired resources to newly enrolled staff and students. Texts are accessible in electronic formats for reading on computers or specialized portable devices. In Tanzania there are platforms such as institutional repositories and integrated library system (Mbughuni *et al.*,2022).

Currently, libraries no longer hold the monopoly on information. University libraries, worldwide, now face competition from various service sectors such as prominent publishing firms, online book retailers, academic database suppliers, the internet, and others that provide easy access to information (Mahmood *et al.*,2021). Consequently, university libraries must embrace a new technological approach to ensure their visibility, value, and relevance to the academic community and their users. This will enable them to effectively meet the information needs of their users and contribute to their satisfaction (Ofori *et al.*, 2020).

Khan & Kumar (2019) conducted a study on user satisfaction with resources, facilities, and services at Vidyavardhaka First Grade College in Mysuru. The findings revealed that the majority of users visited the library once or twice a week mainly to borrow books. Most

respondents were satisfied with the library's physical and online services. Users proposed expanding the library's collection to enhance its resources. Also a study on users satisfaction with library services in Tanzania's at Sokoine National Agricultural Library in the Morogoro region published by Bea *et al.*, (2018) opined that users were satisfied with the library services however, they were dissatisfied with some issues encountered when using library resources, such as inadequate security in the library, which resulted in the theft of some users' belongings from cloak room, poor book arrangement on the shelves that required them to spend much time searching for materials, and poor customer service practices on the part of some library staff.

The implication of inadequate security measures jeopardize the library's credibility. As opined by Saragih *et al.*, (2021) that, when leaving personal belongings behind, users may feel anxious, which could lower attendance and reduce use of the library's services. User needs are given top priority at libraries, and librarians/user interactions are essential to making sure that users feel satisfied (Khan, *et al.*, 2019). In the study by Nzewi (2023) observes that negative interactions can lower the use of library resources and harm its reputation which in turn results to a combination of difficulties such as security breaches, confusion, and subpar service and creates an unsatisfactory environment that can deter users from returning to the library. Library success relies on community trust, requiring staff training and operational adjustments to improve user satisfaction and maintain a welcoming learning resource center image (Albrecht, S. 2023).

2.1.2 Library as a place

The concept of the "library as place" refers to the library not just as a repository of information but also as a social, cultural, and learning environment where users experience different services and interactions Hamilton-Nixon, (2019). It extends beyond its physical building and the educational resources available. It includes the overall environment in which library users learn rather than being limited by geographical boundaries, the notion of place is influenced by personal values and perceptions that contribute to an individual's sense of belonging (Dameria, *et al.*, 2020).

This perspective allows for a deeper understanding of the complex relationships between the experience of a place and its attributes, surpassing methods that fail to recognize the cognitive, affective, and psychomotor dimensions of users Hesari, *et al.*, 2019. Furthermore, it involves a general attitude towards the spatial setting and a complex psychosocial structure that organizes self-referent beliefs, emotions, and behavioral commitments. Hesari *et al.*, (2019) differentiates among various elements of sense of place, encompassing the cognitive, affective, all as aspects of the relationships between individuals and their environment. Various studies on sense of place have examined concepts like place identity, place attachment, and place dependence in relation to the cognitive, affective, psychomotor elements of sense of place (Dameria *et al.*, 2020). The arrangement and structure of a library are essential factors

that impact the experience of its users. As stated by Riratanaphong (2024), particular upgrades of the library are associated with higher usage rates, underscoring the significance of essential enhancements in library environments. Enhancements in library facilities improve service quality and user satisfaction. Physical amenities include building design, book selection, study areas, digital resources, outdoor seating, computer stations, meeting rooms, cafes, and exhibition areas contribute to enriching the overall library visit.

Exhibition space, copy/print/scan areas are secondary category called Person Library staff, student workers, staff at subsidiary facilities are the primary components of the library. The last category, Acts, encompasses Reference and information services, circulation, library cultural events, and instruction workshops. According to Kim (2018), the perception of users towards the library environment is crucial in determining the design, renovation, adjustment, and expansion of library spaces. However, there is a deficiency of comprehensive research on the specific factors that shape users' perspectives of academic libraries as physical spaces. In their study, Mahmood *et al.*, (2021) examined user comments regarding the current condition and amenities of college libraries and results indicates that, users expressed dissatisfaction with the limited space, poor ventilation, inadequate electricity, lack of available resources and ICT tools and behavior of some library staff. However, they did acknowledge the usefulness of the library's circulation service and their frequent visits and do not anticipate revisiting these libraries Mahmood *et al.*, (2021). This implies that there is a needs for academic libraries through various stake holders to upgrade their infrastructure, improve librarians interactions with library users by enhance librarian training and development and focus on providing technology by incorporate use of ICTs tools and online resources learning resources that enhance users satisfaction.

University libraries strive to offer information services of the highest quality to their users, and it is important to consider user statistics that reflect their perception of library services. In general, many library users perceive these spaces as a place where they can access learning resources and receive support for their academic requirements (Kim and Yang 2022). This implies that, academic libraries with comfortable seating arrangement, quiet and neat study areas natural lighting, well organized shelves and space, creates a conducive learning environment that leads to user satisfaction. According to Kim, (2018).) opined that a well maintained clean libraries contribute to a positive perception of the institution as a professionally user friend oriented service provider. Availability of print and online learning resources through speedy internet, free computers, printers and specialized databases ensures that users view the library as valuable facility.

Accessibility and convenience of library are crucial, as extended hours and easy access cater to a broader audience. Rearranging spaces to accommodate different needs, such as study groups or events, creates an adaptable environment. Libraries are seen as symbols of intellectual engagement, and users who feel emotionally connected to the library due to its historical,

architectural, or educational significance are more likely to experience high satisfaction (Cox, 2023). On-site assistance from helpful staff enhances the overall library experience, providing personalized support and guidance. Therefore, this study aims at understanding users' perception of university library services focusing on the quality of library services as a place as it is significantly influences user satisfaction.

2.1.3 Library Collection

Library collection is an activity which involve assemblage and provision of variety of information materials needed by users in a university library, It manifests itself in policies, principles and various guidelines that direct the selection and acquisition of the learning resources. The exercise involves some activities related to development of the collection which includes various resources available for use like audiobooks, films, books, licensed databases and audiovisual equipment (Mwilongo, *et al.*, 2020). It is crucial for the collection to align with the educational programs offered by university. Library collection should involve resources that are specifically tailored to meet the needs of the university's vision and mission and that of the specific programs. Whether physical or electronic, every item in the library collection is attentively selected to cater to a specific audience or serve a particular purpose (Mwilongo, *et al.*, 2020).

The library that is able to provide their users with required needs will have more satisfied users. Therefore, the accessibility of resources and services can have a significant impact on user satisfaction. In a survey conducted by Mahmood *et al.* (2021) in Pakistani university libraries, the researchers evaluated user satisfaction in relation to collection development. The findings indicated that faculty members' satisfaction levels were situated between satisfaction and dissatisfaction. Regarding policies and procedures concerning collection development, a considerable number of respondents expressed having no particular opinion. As a result, the study recommended that both administrators and faculty members actively participate in the process of building library collections. Generally library as a place greatly influences user satisfaction by shaping the overall experience, not just through its collections but through the physical environment, social opportunities, and access to resources. Libraries that are welcoming, multifunctional, and responsive to the needs of diverse users typically report higher levels of satisfaction.

Library collection in university libraries enhances academic support, improves access to quality resources, and ensures efficient resource management and aligns with the curriculum, ensuring resources are relevant and up-to-date (Bachynska, *et al.*, 2024). It also promotes research and innovation by providing access to seminal works, current studies, and interdisciplinary resources and attracts researchers and students, making the university a hub for scholarly activities and potential research partnerships.

Oguntuase, et al., (2024) on their studies on leadership styles and collection development practices of libraries in academic libraries found out that a well organized library collection process positively impact a university accreditation, ranking, enhance its reputation as an academic community and it enhance its sustainability, preservation of rare historical and unique resources. Collection Development (CD) enable continuous monitoring and evaluation of library resources leading to regular update and adaptation to changing academic trends and needs. Also ensures the library remains a dynamic, responsive and essential component of the university. Organized collections improve user satisfaction and engagement by simplifying the search and retrieval process (Khan, et al., 2024). They also allow for customized services and support the seamless integration of digital resources. They also ensure the preservation of important scholarly content, digitization of rare collections, and robust archiving for long-term access.

2.1.4 Librarians

Librarians are people who working professionally in a library providing information services and sometimes social or technical programming or instruction to library users. Antonia et al.,(2024) opined that librarian in universities are of two categories: academic and non academic, belonging to either of the categories has implication as employees role, duties, status and career progressions in the academic setting. They are individuals who posses knowledge and skills. The attraction, preservation and development of high Caliber people are a source of competitive advantage for the libraries and their responsibility. Librarian in academic library contribution to services, as mentioned by Cobblah, (2015), which involves certain qualities such as paying equal attention to users, responding to questions, possessing adequate knowledge, being dependable, and ability to handle challenges effectively. The impact of services are directly related to the qualities shown by a librarian when interacting with users. Research indicates that the attitude of library staff has significant impact overall user satisfaction with the library use. University librarians need to consistently assess the academic landscape to offer user-centered services. This does not imply a passive role; rather, librarians can actively engage by forming partnerships with their academic communities and collaboratively selecting cost-effective and efficient information access solutions (Andaleeb & Simmonds, 1998).

Librarians should be actively engaging with academic environment and anticipating user needs, rather than passively waiting for requests for specific services. (Oguntuase et al., (2024) opined that librarians are tasked with nurturing and enhancing relationships with faculty, researchers, and students, ensuring that the services provided are in alignment with the institution's academic objectives and priorities. In the selection of information access solutions, including databases, journals, and other resources, librarians are urged to evaluate cost and effectiveness of these options. This necessitates a careful balance between budget limitations and the provision of high-quality academic resources, thereby ensuring sustainability while

promoting academic excellence (Tribelhorn, & Young, (2022). Also, librarians should engage in ongoing assessment of the academic setting, which involves keeping abreast of trends in research, teaching methodologies, technology, and information access to guarantee that the library remains responsive and adaptable to shifts in the academic setting and anticipated to be dynamic and engaged professionals who play a vital role in advancing the academic mission through strategic collaborations, innovative service design, and practical resource management.

According to various scholars such as (Bachynski *et al.*, 2024 and Donkor,*et al.*, 2024) in their studies point out the role of librarians as they play a crucial role in enhancing academic works by;- access a quality learning resources; fostering critical thinking;,, instruct users on how to locate, evaluate and use of library resources; acquire, organizes, manage the library resources by using data bases library systems; search tools;,, provide lectures and workshops, long and short courses; using specialized databases in maintaining academic integrity;,, conducting research;,, offers specialized subject expertise, creating customized resources for specific disciplines and do update the emerging ICTs to ensure smooth library operations and offers personalized user support by helping them to find out the right resources and even how to navigate library systems and databases.

Librarians are the key actors in developing collection that meets the needs of users by ensuring budget optimization, cooperate with faculty members and other professional communities and influence policies and other cross cutting issues within the community based on goals and mission of the university thus ensures the library remains a central pillar of the university in the academic infrastructure and contribute in meeting accreditation standards by enhancing university good image and driving innovations (Antonia *et al.*, 2024).

2.1.5 Library facilities

It refers to physical infrastructure and resources available within the library which include; tangible components like furniture, equipment, technological resources, shelving, rest rooms, study areas and specific services like photocopying and air conditioning (Wheatley, & Hervieux, 2019). It emphasizes the components' usefulness and quality as well as how they update library operations. By improving the user experience and collaborative environment, library facilities are essential for advancing educational objectives from the individual viewpoint to the university as a whole. Rooms for both private and group study should be included in contemporary library facilities. In order to help users access instructional resources, it should also offer a state-of-the-art technological infrastructure with current computers and specialized software.

Once more, libraries equipped with advanced technologies should feature specialized laboratories and tools like Bloomberg terminals or multimedia production labs, facilitating practical, hands-on experiences, particularly for fields such as business, media studies and

for users with visual impairments (Afacan, 2017). High-quality facilities enhance access to both printed and digital learning resources, simplifying the process for users to find pertinent academic materials. Well-kept facilities (such as sufficient seating, effective lighting, climate control, unique resources for everyone, digital assistance for their papers, equal access to those collections, and preserving indoor air quality within the framework of sustainable special collections spaces) enhance user satisfaction and create an inviting environment for extended study sessions. Libraries designed with adaptable spaces can accommodate lectures, workshops, and community events, positioning them as vital hubs for campus life and education (Miao, *et al.*, 2024).

2.2 Perception on the quality of library services among library users

In a study conducted by Kiriri (2018), perception was defined as the understanding and interpretation of library services and its overall environment. It involves individuals or groups becoming aware of their surroundings and interpreting them based on their own perspectives. In a nut shell, the perception of university library may be influenced by quality of library collection and its relevance, accessibility and convenience, technological infrastructure, study and learning environment, innovations and adaptability, librarian skills and knowledge, institutions and global standing as well as the visibility of the library in national and international forums through research, collaborations and publications (Jinendran, & Kumar 2023).

Up to date collection in university libraries supports academic operations by ensuring that learning resources are relevant to its national and international standards. Trained librarians play a critical role in enhancing information literacy, research skills, fostering critical thinking, and improving access to quality resources Chandrakar, K. (2024). They also manage cataloging, metadata creation, and classification, ensuring materials are organized and accessible.

Saragih *et al.*,(2021) on their study on analysis of the Influence of the quality of Library Services on Library satisfaction opined that for a library to satisfy the needs of their users, it should be open and convenient as they expect the library to be physically accessible, with comfortable study spaces, flexible hours, and a conducive learning environment.

Technological infrastructure such as cutting-edge tools and systems, integration of digital resources and conducive environment contribute to users' perception. Innovative practices, such as integrating maker spaces, digital media labs, or virtual reference services, are seen as progressive and forward-thinking (Wema 2018). Again, users centered approach is another important aspect in perception whereby libraries should respond to feedback from users by improve their services as per users' inputs. It should actively engage with the academic community in enhancing its reputation. Users' friendly policies and guidelines like borrowing periods, fines for defaulters, access to materials restricted areas and access to services lead to contribution to academic success hence library will be perceived positively. Also,

a collaborative spaces for research and learning, cross-disciplinary support, institutional and global cooperation through participation in various conference proceedings can boost a university's reputation (Ojei, & Popoola, 2023).

Generally, the perception of a university library is shaped by its quality, effectiveness, and relevance to the academic and research needs of students, faculty, researchers, and the broader academic community. The research conducted by Molson (2022) explored the issues that have a positive impact on shaping users' perceptions. It was found that the quality of the collection, services, and facilities had a positive influence on users' perceptions. Additionally, user involvement in material selection, convenient library location, improved reference services, participation in educational programs for users, and the subject expertise of librarians were also significant factors contributing to user satisfaction. As stated by Molson (2022) when users' needs and expectations are fulfilled in the course of accessing and utilizing library services it positively influences their perception towards the library.

Therefore according to various scholars sucha as (Antonia *et al.*, 2024, Kheswa,2020,; Mwantimwa & Wema 2020, Kiriri, 2018; Parasuraman *et al.*, 1998) for better functioning of the university library and enhancing the perception of its users, the university management should adhere the following standards of perception on the quality of library services, that is;

- Enabling academic system, curriculum, collection development to support teaching, learning, research and consultancy by ensuring the availability of current library resources as per users needs.
- Resources management that ensures allocation of funds by prioritizing acquiring the most needs of users, reducing redundancy and under use of financial resources. Also data driven decision making through collection analysis, stock evaluation, usage statistics and users guide decision making collection more relevant as well as response to changing needs.
- A well-organized collection development fosters research growth by providing access to seminar proceedings, current studies that attracts collaboration bya academic community hence making a university a hub for scholarly partnerships.
- An organized collections with proper classification and easy discovering tools enhance satisfaction by simplifying retrieval process.
- Proper collection development allows special services where by subject guide, research support, customized collections for different user groups.
- An organized collection plan supports the seamless integration of digital resources like e-books, online journals and adaptation of new technologies like Electronic Resources Management System (ERM)

- Strategic planning ensures preservation of important scholarly contents, digitalization of rare collection and robust archiving for long term access.
- A well-developed collection influencing a university accreditation and ranking through demonstration of commitment to academic excellence
- A comprehensive and current collections uplift the university reputation as academic institution hence attracting recruitment and optimizing the library's as a central resource for academic success, supporting the strategic goals of the university.
- A well-curated collection enhance the library's reputation as reliable academic facility where by the university community feels satisfied when using the facility

2.3 Theoretical framework

Various theories and models in the field of library and information sciences, such as Web-Qual, Lib-Qual, E-S-Qual, Site Qual, Dig-Qual, and ServQual, are used to explain user satisfaction with library service provision (LSP). Several studies e.g., Kaishe-Mulungu, *et al.* (2024); Mbua *et al.* (2023); Thokoa *et al.* (2022); and Alam (2021) have employed these models to evaluate user satisfaction with (LSP). However, this particular study chose to utilize the ServQUAL model due to its effectiveness in measuring library service quality on a global scale. After conducting research on four service settings retail banking, credit card services, electrical appliance repair and maintenance, and long-distance telephone services Parasuraman *et al.* (1985) established a model of service quality. According to Parasuraman *et al.* (1985), the SERVQUAL model defines service quality as the difference between a customer's expectations of a service offering and their perceptions of the service they actually received. It is therefore a measure of attitude. This model aims to quantify precisely how consumers perceive the quality of the services they receive, which is dependent on the extent of the difference between the services they receive and what they perceive, which in turn depends on the gaps that the service provider can control, such as marketing and service delivery (Parasuraman *et al.*, 1985). This measurement of service quality is based on both on how consumer evaluates the service delivery process and the outcome of the service. Parasuraman *et al.* (1985) High-quality service is defined as one that meets or surpasses the expectations of consumers. The SERVQUAL model was originally composed of ten dimensions of service quality, which included tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding the customer, and access. However, these dimensions were later condensed to five due to overlaps among certain dimensions (specifically communication, credibility, security, competence, courtesy, understanding customers, and access). The five dimensions are as follows: Tangibles, which refer to the physical facilities, equipment, and appearance of staff; Reliability, which denotes the ability to deliver promised services consistently and accurately; Responsiveness, which reflects the willingness to assist customers and provide timely service; Assurance, which

encompasses the knowledge and courtesy of employees and their capacity to instill trust and confidence; and Empathy, which pertains to the personalized attention that the firm offers to its customers (Parasuraman *et al.*, 1988).

The models may not take into account the distinct contexts and individual requirements of various university libraries. On the other hand, rapid technological advancements can lead to certain aspects of these models becoming obsolete in no time. Consequently, these models may struggle to pinpoint specific areas for enhancement or predict upcoming user needs. Zeithaml, Berry, and Parasuraman developed the ServQual model in 1988 to measure customer expectations and perceptions of service quality. The ServQual model identifies five critical elements of services, known as RATER: Tangibles: The appearance of physical facilities, equipment, and personnel. Reliability: The ability to perform the promised service dependably and accurately. Responsiveness: The willingness to help customers and provide prompt service. Empathy: The provision of caring, individualized attention to customers. Assurance: The knowledge and courtesy of employees, and their ability to inspire trust and confidence. These dimensions primarily emphasize the human elements of service delivery, including responsiveness, reliability, assurance, and empathy, along with the tangible aspects of the service. Reasons of using servqual model identification of Service Delivery Gaps: The SERVQUAL model is specifically designed to assess the difference between users' expectations and their actual perceptions of service performance (Dahan, *et al.*, 2016). Conducting this gap analysis enables the identification of particular areas where the library may not be meeting standards and where enhancements are necessary. By recognizing these gaps, libraries can improve their service delivery to align with or surpass user expectations, ultimately resulting in increased user satisfaction (Dahan, *et al.*, 2016). User-Focused Methodology: SERVQUAL emphasizes user perceptions and expectations, making it a suitable framework for investigations into how users perceive and assess service quality. As service-oriented entities, libraries must prioritize understanding users' viewpoints to ensure that their services effectively meet user needs. This user-focused methodology guarantees that the research addresses the genuine concerns and aspirations of the library users.

Measuring the relationship between satisfaction and service quality: One of the strengths of SERVQUAL is its ability to link service quality to user satisfaction. By applying this model, research can examine the direct relationship between users' perceptions of service quality and their overall satisfaction (Gómez-Cruz, *et al.*, 2020). This can provide actionable insights into how improvements to specific service dimensions can lead to increased user satisfaction. Flexibility and applicability in library contexts: Originally developed for commercial services, SERVQUAL has been successfully adapted to the public and non-profit sectors, including libraries. The model's dimensions can be adapted to fit the unique context of library services, such as measuring the quality of digital resources, the librarian experience, or the accessibility of information. Using SERVQUAL, a library can compare the quality of its services over time or with other institutions. This benchmarking capability makes it a valuable

tool for continuous improvement, allowing libraries to track changes in user perception and satisfaction as they implement service improvements. In summary, SERVQUAL provides a structured, proven, and user-focused framework to assess and improve library service quality, making it an excellent choice for studying user perceptions and satisfaction (Gómez-Cruz, et al., 2020).

2.4 Conceptual framework

The conceptual framework was derived from the SERVQUAL Model as the dimensions cover essential aspects such as the physical environment of the library, staff competence, and the promptness of service, providing a holistic view of the service quality. Therefore, the dependent variable is User satisfaction while the independent variable is library services provision. The mathematical expression for the regression model represented by this conceptual framework was given as follows: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$ or User satisfaction = $\beta_0 + \beta_1 * \text{library collection} + \beta_2 * \text{library services} + \beta_3 * \text{library as a place} + \beta_4 * \text{library staff} + \beta_5 * \text{library facilities}$. Where, Y is the dependent variable representing user satisfaction and X_1, X_2, X_3, X_4 and X_5 , are the independent variables, that is, respectively. β_0 is a constant (the intercept of the model) and β_i s are regression coefficients of X as variables while ϵ is the error term. The conceptual framework adds one variable which is library resources because the study thought that the availability of library service provision is important in user satisfaction.

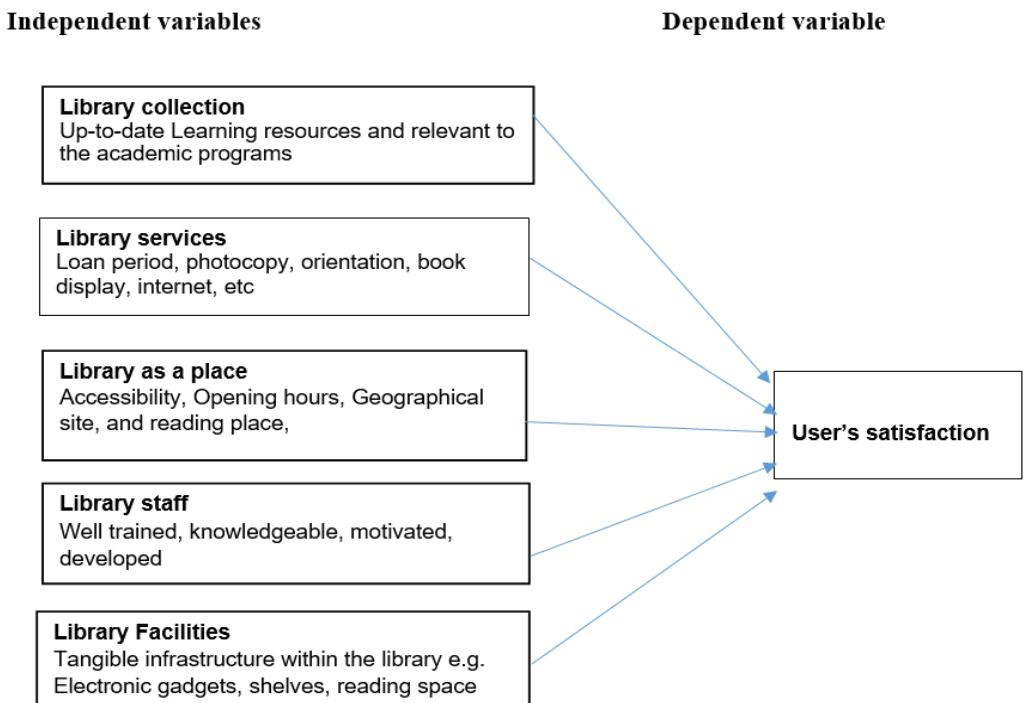


Figure 1: A modified conceptual framework

3.0 Study Design and Methods

The pragmatic philosophical paradigm was employed in this study, as it places utmost importance on the research problem and utilizes various paradigms to comprehend the problem (Kaushik & Walsh, 2019; Creswell & Poth, 2016). Being a paradigm that emphasizes practical and logical approaches, the pragmatic philosophical paradigm is also recognized as the foundational framework for mixed-methods research (Somekh & Lewin, 2005; Tashakkori & Teddlie, 2008). According to this research, which utilized both qualitative and quantitative methods, this framework aligns with the present study. The pragmatism approach involves designs that integrate practical decisions centered around determining the most effective methods for addressing the problem. This allows pragmatic researchers to carry out their studies in creative and dynamic ways, ultimately leading to the discovery of solutions for research problems. The research employed a mixed approaches to collect data, as they enable the gathering of different data types and enhance the reliability of conclusions. This is due to the fact that the limitations of one approach are compensated by the advantages of the other approach (Kothari, 2014).

The study employed a cross-sectional research design, which involved collecting data at a single point in time. This design saves time and resource which are limited (Merriam & Tisdell, 2015). In a cross-sectional study, the researcher assesses both the outcome and the exposures in the study participants simultaneously. The selection of participants in such a study is based solely on the predetermined inclusion and exclusion criteria. Cross-sectional studies are also recognized for their relatively swift execution and cost-effectiveness. The study was carried out in five selected Universities in Tanzania, namely University of Dar-es-Salaam (UDSM), the University of Dodoma (UDOM) and St. Augustine University (SAUT) on Tanzania Mainland and the State University of Zanzibar (SUZA) and Zanzibar University (ZU) in Tanzania Islands. These five universities were selected purposefully because most of them are old enough in terms of experience, resources, services offered and its libraries and infrastructure. St. Augustine University (SAUT) and Zanzibar University (ZU) were privately owed while University of Dar-es-Salaam (UDSM), the University of Dodoma (UDOM) and State university of Zanzibar were government owned. All universities are rendering services which differs in one way or another. However, they are regulated by Tanzania Commission for Universities (TCU) and was accredited as per regulatory authority. It was therefore considered that the universities under study were applicable to give the required and adequate information under the study.

The population of this study was members of academic staff, students, heads of higher learning institutions, Directors of Libraries, quality assurance officials, Heads of Departments in the libraries and library staff amounting to 64,988 (Table 1). In addition, 68 respondents were selected purposely because they thought to provide important information related to the positions they held in their institutions that could enriching the research findings. These groups

were chosen because they were considered as potential for providing relevant information and answers for the study. The unit of analysis was the university's academic staff and students who were selected by using purposive sampling techniques and systematic random Sampling techniques as explained in (Kothari, 2014).

Table 1: Population of the Study

Name of University	Category	Number of Participants
UDSM	Staff	1,538
	Students	28,625
UDOM	Staff	867
	Students	16398
SAUT	Staff	434
	Students	10, 957
SUZA	Staff	230
	Students	3,984
ZU	Staff	93
	Students	1,995
Total		64,988

Source: TCU, 2018

Respondents in this study were selected by using both probability and non-probability sampling techniques. Probability sampling techniques used were systematic random sampling while non-probability sampling was purposive sampling techniques. Purposively technique was used to select five universities of this study whereas systematic random sampling was used to obtain respondents of the population at regular intervals every after the 20th respondent on a list of the population.

The study had 68 key informant respondents of which Heads of university administrators were (20), Directors of libraries (5), Heads of Library Departments (20), Heads of Quality Assurance Units (5), Heads of Finance (5), Heards of ICT units (5), and Building and Estate Managers (8). The key informants were selected purposely because they were thought to be well knowledgeable and with the required expertise in their respective areas of specialization. The total population was 64,988 (see table 1). The sample size was was obtained by using Sample Size Determination Table by Israel, (2003) which state that; if the total population is between 50,000 to 100,000 the sample shall be 397 respondents. (see Table 2).

Table 2: The sample size of the Study

	Precision level	Precision level	Precision level	Precision level
Population	±3%	±5%	±7%	±10%
15,000	1034	390	201	99
20,000	1053	392	204	100
25,000	1064	394	204	100
50,000	1087	397	204	100
100,000	1099	398	204	100
≥100,000	1111	400	204	100

Source: Israel (2003) **Israel Sample Size Determination Table Sample size for ±3%, ±5%, ±7% and ±10% Precision Levels Where Confidence Level is 95% and P=.5**

Table number 3 shows the sampling frame which indicate how many respondents were selected from each universities. The respondents were selected by using a formula =Number of Participants/total population*sample size= number of respondents in each university categories of staff and universities.

Table 3: Sampling frame

Name of University	Category	Number of Participants
UDSM	Staff	9
	Students	175
UDOM	Staff	5
	Students	100
SAUT	Staff	3
	Students	67
SUZA	Staff	1
	Students	24
ZU	Staff	1
	Students	12
Total		397

Source: TCU, 2018

The primary data for the study were collected using questionnaire and interviews. Questionnaires with closed and open-ended questions were administered to the unity of analysis category which was students and university staff. Questions were set based on constructs extracted from the conceptual framework and specific objectives of the study. Questions required respondents to select answers from the list provided and Likert scale questions to rate numbers in matching statements. Other questions required respondents to explain, and express their views or opinion on related matters in each section. The questions focused on the main and specific objectives of this study. Questions were distributed to each specific group. Open questions were used because they allowed respondents to express their views independently and hence reduce biases and subjectivity. However, questionnaire were pretested before being administered to the respondents. The results obtained were 0.72 that means the instrument were reliable.

The interview is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program or situation. In this study, interviews were administered to the key informants who were 68 informat (UDSM 16, UDOM 16, SAUT 16, SUZA 11, ZU 9).

On the other hand, secondary information were collected by using the existing information through library research by consulting various books, documents, journal articles and reports in both print and non-print media. Also, published and non-published works were used to find out the existing information about the study topic.

The data were analysed qualitatively and quantitatively (See table 4 analytical framework). Quantitative data were analysed by using SPSS software where descriptive data analysed. The results were presented in the form of tables and figures indicating frequencies, percentages. Content analysis was used to analyse qualitative data gathered from key informants and open-ended questions obtained from the unity of analysis which was the respondents. The researcher collected the information with the related ideas from open-ended questions and interviews.

Table 4: Analytical framework

Objective	How was analysed
1. Examine the extent of how the library services influences library users' level of satisfaction.	Descriptive analysis and binary logistic regression
2. To determine the perceivenss level of satisfaction on the quality of library services among library users.	Descriptive analysis

4.0 Research Findings

In this section findings are presented based on specific objectives as follows;

4.1 To analyse the extent to which the library services influences library users' level of satisfaction

The respondents were asked to indicate to what extent library services influences users level of satisfaction based on time, accessibility and time spent to reach library and the results are indicated in table 5. These results show that 61.2% indicated that time provided for using the library is adequate for users, 58.7% indicated that they access library any time they need and 54.6% indicated users who may want to come to the library but are not able because of distance.

Table 5: extent to which the library services influences library users' level of satisfaction

S	f	%
Access library any time they need.	233	58.7
Time provided for using the library is adequate for users	243	61.2
Users are not able to use the because of distance	217	54.6

These results shows that the majority of users are using the library adequately once the library was open. This implies that libraries are open at the required time and the staff are there to provide the students with the services they needed. Therefore, the library management should make sure that the library is open on time and skilled staff are available to give services and provide the required assistance to users. The findings are similar to those from the study done by Nzewi (2023) who found out that library staff through their professional skill are able to guide and support student get the needed information resource to achieve their educational goal.

Interviews with library directors (key informants) had this to say in relation to the extent library services influence users level of satisfaction;

“Library users are satisfied with the availability of learning resources both print and online but the frequent electricity cut off is affecting its effectiveness, efficient careful use of our library facility.” St. Augustine and Dodoma University, (key informant 1, 2022).

“Most of students reported that they are not satisfy with the library because it does not have enough computers and most of them use their own electronic gadgets to brows online resources which is difficults as there are no enough charging sources” State University of Zanzibar and Zanzibar university, (key informant 2, 2022).

To ascertain the factors that influenced the level of satisfaction of library services, a binary logistic regression model was used. The results are presented in Table 6.

Table 6: Factors influencing the user satisfaction level of library services

Variable	95.0% C.I.for EXP(B)							
	B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Lack of relevant resource	.447	.238	3.526	1	.060	1.563	.981	2.492
noise	-.526	.260	4.106	1	.043*	.591	.355	.983
impoliteness	-.013	.328	.002	1	.968	.987	.519	1.878
No computers	.005	.243	.000	1	.985	1.005	.624	1.617
bad photocopy	-.620	.276	5.052	1	.025*	.538	.313	.924
Lack of air conditioners	.684	.288	5.628	1	.018*	1.982	1.126	3.488
Lack wireless connectivity	.363	.256	2.010	1	.156	1.437	.870	2.372
Poor toilets	.391	.282	1.931	1	.165	1.479	.852	2.569
congestion	.437	.271	2.596	1	.107	1.547	.910	2.631
lack enough staff	.466	.273	2.918	1	.088	1.594	.934	2.720
lack printing services	-.154	.247	.389	1	.533	.857	.528	1.391
lack weekend services	-.579	.287	4.070	1	.044*	.560	.319	.984
early closing time	.781	.349	5.020	1	.025*	2.184	1.103	4.326
Constant	-1.441	.563	6.541	1	.011	.237		

Note: * Statistically significant at 5% level of significance

Results from binary logistic regression indicate that several factors had a statistically significance influence on the user satisfaction with library services. Among them with their corresponding probabilities are noise ($p = 0.043$), bad photocopy ($p= 0.025$), lack of air conditioners ($p=0.018$), lack weekend services ($p=0.044$), early closing time ($p=0.025$).

Interviews with library directors (key informants) had this to say in relation factors that the level of satisfaction of library services,

“Library users were not satisfied with overcrowding and hot climatic condition, lack of chairs, and early closing time especially during university preparation weeks which negatively affects concentration of their studies given the fact that most of them are staying off campuses.”
University of Dar es salaam, (key informant 3, 2022).

4.2 Assessment on how library users perceive their satisfaction with the quality of library services

4.2.1 Perception to library staff

Table 7: Library Staff as perceived by library users

Statement	Strongly agree		Agree		Neutral		Disagree		Strongly disagree		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Library staff are approachable, polite, friendly and empathetic	158	40	93	23.4	99	24.8	29.9	7.5	0.9	0.2	397	100
Library staff makes relevant information about its services available	137	35	106	26.6	98	24.7	38.4	9.7	17.1	4.3	397	100
Library staff are competent in the communication	108	27	91	23	116	29.2	32.4	8.2	14.5	3.7	397	100
Library staff provide sufficient library user education	106	26.7	90	22.6	110.9	27.9	42.7	10.7	13.6	3.4	397	100
Library staff provide printed or electronic resource guidance	113	28	91	23.	127	31.9	52	13	13.4	3.4	397	100
Library staff makes relevant information about its services available	115	28.9	114	28.7	107	26.9	52	13	11	2.7	397	100
Library staff competence in professionalism	119	29.9	100	25.2	122	30.7	42	10.5	2	0.5	397	96.8
The behavior of the Library Staff is impressive	109	27.5	113	28.4	117	29.4	56	14.1	2	0.5	397	99.8

The respondents were asked to indicate how they perceive library staff on the services provided in the library. 40% indicated that library staff are approachable, polite, friendly and empathetic, 35% library staff are available to respond timely and in humble manner, 29.9% indicated that library staff were competent in professionalism, 28.9% were of the view that library staff makes relevant information about its services available, 28% library staff provide printed or electronic resource guidance, 27.5% the behavior of the library staff were impressive, 27% library staff are competent in communication while 26.7% said library staff provide sufficient library user education. However, 14.1% of the respondents disagreed that the behavior of the Library Staff is impressive. This results corresponds to findings from a study by Ojei and Popoola (2023) who indicated that the library staff delivers the library services with positive attitude, prompt and are always ready to respond to users' query, assurance, access, good communications skills and empathy, Library staff positively influences the users access to effective library services. However, interviews with staff from quality assurance unit (key informants) commented on how they perceive library staff on services provision.

“Most of library staff perform their duties properly but they complain that they have so many costumer to serve at one time therefore they find themselves exhausted with duties.” Dodoma University (2022).

“Most of library staff are competent with ICT technology therefore they library users perceive the library to be providing services they wanted.” Zanzibar University (2022).

4.2.2 Perception to library services

Table 8: Library services as perceived by library users

Statement	Strongly agree		Agree		Neutral		Disagree		Strongly disagree		Total	
	F	%	f	%	f	%	f	%	f	%	f	%
An information-rich library website is easy to access, impressive looking, informative and easy to navigate	114	28.7	122	30.7	111	27.9	50	13	1	0.2	397	100
Timely library opening hours meet my time table needs	120	30.2	88	22	107	27	44	11	2	0.5	397	100
An information-rich library online catalog e-portal is easy to use and to learn how to use	117	29	102	25.6	108	27	41	10	3	0.6	397	100

A good library provides reservation/booking services	108	27	98	25	118	30	51	13	3	0.8	397	100
A good library provides interlibrary loans request thoroughly and promptly	140	35	78	20	131	33	47	12	0.8	0.2	397	100
In an efficient library books are re-shelved promptly and are neat free from dust	136	34	116	29	114	29	28	7	3	0.6	397	100
A good library provides users advisory services to assist them to use the collection efficiently	150	38	95	24	118	30	31	7.8	3	0.6	397	100

The respondents were asked to indicate how they perceive library services. The results show that 38% reported that a good library provides users with advisory services to assist them to use the collection efficiently, 35% reported that a good library provides interlibrary loans request thoroughly and promptly, 34% said that in an efficient library, library books are re-shelved promptly and are neat free from dust. Additionally 30.2% indicated that timely library opening hours meets their time table needs, 29 % indicated that an information-rich library, online catalog e-portal is easy to use and to learn how to use it, and 28.7% said that an information-rich library website is easy to access, impressive looking, informative and easy to navigate. However, 13% disagreed that a good library provides reservation/booking services. This results are similar to study done by Bamkin (2021) who indicated that the participants identified the benefits of interlibrary lending and generally acknowledged that resource-sharing was important. However, interviews with staff (key informants) commented that most students are satisfied with services rendered by their library, however some of them were not satisfied with the library services categorically in availability of computers and most of them are restricted for typing, inserting external gadgets they are just there for catalogue access only, so they perceive library service as not satisfactorily at all.

4.2.3 Library collection

Table 9: Library collection as perceived by library users

Statement	Strongly agree		Agree		Neutral		Disagree		Strongly disagree		Total	
	f	%	f	%	F	%	f	%	f	%	f	%
I find Journals, newspapers, magazines & printed resources sufficient	119	30	112	28	114	29	46	11.6	6	1.5	397	100
Satisfying collection of theses & dissertations in my discipline are sufficient in this library	123	31	112	28	115	29	44	11	3	0.6	397	100
I find library collection books in my programs sufficient in this library	134	33.8	105	26	114	28.8	38	9.6	5	1.2	397	100
I find records of the collection are kept consistent with actual holding/status in this library	103	26.0	112	28.1	139	35	39	9.8	3	0.6	397	100
I find this library has extensive subscribed databases and e-learning resources	113	28.3	105	26.4	121	30.4	50	12.4	9	2.1	397	100
I find this library to provide sufficient CD, DVD, VHS, photos & other digital resources	82	20.6	81	20.4	138	34.8	86	21.6	9	2.3	397	100
I find e-resources portals are easy to access, informative & easy to navigate in this library	94	23	120	30.3	120	30.3	63	16	3	0.6	397	100

The respondents were asked to indicate how they perceive Library collection. 33.8% indicated that they find library collection books in their programs sufficiently in their library, 31% were satisfied with collection of theses & dissertations in their discipline are sufficient in this library, 30% find Journals, newspapers, magazines & printed resources sufficient, 28.3% reported that they find the library having extensive subscribed databases and e-learning resources, 23% find e-resources portals easy to access, informative and easy to navigate, 20.6% find the library to provide sufficient CD, DVD, VHS, photos & other digital resources.

However, 21.6% disagreed that they find the library to provide sufficient CD, DVD, VHS, photos & other digital resources. This results are contrary to a study done by Elias and Lubua (2021) who indicated that the library contained e-resources organized by their college libraries were proprietary online e-resources, Open source online e-resources, Off-line database and CD/DVD collection. Interviews with staff from quality assurance unit (key informants) had this to comment on how they perceive Library collection.

“librarians are doing their work professionally, the problem is the number of library users at once which makes them seem less efficient.” Dodoma and Dar es salaam Universities (2022).

“Most of libray staff are competent with ICT technology therefore they perceive that library provide services they wanted.” Zanzibar University (2022).

4.2.4 Library as a place

Table 10: Library as a place and Services as perceived by library users

Statement	Strongly agree		Agree		Neutral		Disagree		Strongly disagree		Total	
	F	%	f	%	F	%	f	%	f	%	f	%
Library as a place provides sufficient secretarial services	102	25.5	70	17.6	30	7.5	83	20.8	6	1.2	397	100
lighting of the Library Building is condusive	149	37.4	84	21	129	32.4	33	8.3	3	0.6	397	100
Cleanliness of the Library and its conducive environment enhance learning	155	38.9	140	35.2	31	7.7	2	0.4	11	2.7	397	100
Library as a place provides sufficient computer workstation for users	117	29.4	86	21.7	159	40.0	33	8.3	2	0.4	397	100
Library as a place provides reliable wireless connections to the internet	121	30.5	90	22.5	155	38.9	26	6.6	4	1.1	397	100
Library has sufficient seating, carrels, discussion rooms & study areas	126	31.8	71	17.8	149	37.4	44	11	7	1.7	397	100

Library place provides sufficient book borrowing and returning kiosks	114	29	76	19	157	39	47	11.8	4	1.1	397	100
Library as a place provides sufficient cloakrooms/lockers	157	33.8	85	18.3	171	36.8	40	10.3	4	1.1	397	100
Library is comfortable, clean & well lighted with clean air	145	36.6	73	18.4	141	35	37	9.2	1	0.2	397	100
Library provides timely and clear information about equipment which is not working	114	28.8	95	23.8	154	38.7	30	7.5	4	1.1	397	100
Directional and warning sign, emergence doors/windows in case of fire alarm	120	30.3	81	20.4	159	40	32	7.9	5	1.2	397	100
Library Reference Services (Current awareness Services and Selective Dissemination of information etcCAS ,SDI	130	28.0	89	19.1	194	41.7	50	10.8	2	0.4	397	100
The seating arrangement of the Library is attractive	190	47.9	75	19.1	16	4	55	13.9	1	0.2	397	100

The respondents were asked to indicate how they perceive library as a place and services provided. 47.9% of the respondent indicated that the seating arrangement of the Library is attractive, 38.9% cleanliness of the Library and its conducive environment enhance learning, 33.8% library as a place provides sufficient cloakrooms/lockers, 37.4% lighting of the library building is conducive, 36.6% library is comfortable, clean and well lighted with clean air, 33.8% library as a place provides sufficient cloakrooms/lockers, 30.5% library as a place provides reliable wireless connections to the internet, 30.5% library as a place provides reliable wireless connections to the internet, 30.3% directional and warning sign, emergence doors/windows in case of fire alarm 29.4% Library as a place provides sufficient computer workstation for users, 29% library place provides sufficient book borrowing and returning

kiosks , 28.8% library provides timely and clear information about equipment which is not working and 28% library reference services (Current awareness Services and Selective Dissemination of Information)This results shows that most users strongly agree with the service provided in the library as a place. However other users disagree with the service provided for example 20.8% of users disagree that the library offers enough secretarial services, 13.9% think the sitting arrangement is attractive, and 11.8% think there are enough book borrowing and return kiosks. These findings are consistent with a research by Kekana & Kheswa (2020), which found that students' opinions of the services they received at (CRM) Cecil Renaud Main library were less favorable than what they had anticipated. Interviews with directors (key informants) had this to comment on how they perceive Library as a place.

“most of Library users perceive library as a place not conducive for having discuss and others are complained that the atmospheric condition is not pleasant for study.” Dodoma University and University of Dar es salaam (2022).

“Most of library users requesting that the library should have a coffee shop and soft drinks” Zanzibar University and State university of Zanzibar (2022).

5.0 Discussion, Conclusion and Recommendations

5.1 Discussion

University libraries in Tanzania provides services to mainly students and academic staff. Since the libraries are the heart of any university are enhancing university activities such as library services, facilities, collection, place and trained staff that aim at facilitating the university to realize its missions/vision through quality library service provision (QLSP) by observing global /Tanzanians standards. The findings revealed that 61.2% are using library adequately as it opens on time and time provided for using it is adequate. This implies that university libraries are striving to provide information resources and services as per local and international standard. Therefore, The library management should ensure that library is opened on time and skilled staff are available to give services to users. This is similar to the study done by Nzewi (2023) who found out that library staff through their professional skills are able to guide and support users to get the needed information resource to achieve their educational goal. Therefore library management and the university at large should ensure the library facilities have the required trained staff which enhance the utilization of the resource and facility on given time.

Again, to ascertain the factors that influenced the level of satisfaction of library services, a binary logistic regression model was used and the results indicate that several factors had a statistically significance influence on the user satisfaction with library services. Among them with their corresponding probabilities are noise ($p = 0.043$), bad photocopy ($p= 0.025$), lack of air conditioners ($p=0.018$), lack weekend services ($p=0.044$), early closing time ($p=0.025$). This implies that, users across all universities have been affected by noise, poor photocopy

services, lack of cool environment given the hot climate condition in East Africa, lack of week end services and early closing of the library. This leads to dissatisfaction with library services. The study found that noise levels, poor photocopying services, lack of air conditioning, lack of weekend services, and early closing times are significant factors affecting user satisfaction in libraries. Reducing noise levels and providing quieter areas could improve satisfaction. Improving photocopying facilities or maintenance could enhance user experience. Expanding hours to include weekends and extending operating hours could also improve satisfaction. Addressing these issues could lead to better library experiences for users. This results are similar and a bit contrary on sounds to the study by Peng *et al.*, (2022) on university library space renovation based on user learning experience in two Wuhan universities and found out that library design should abide with some elements that affects learning experience of university library users, the results of binary logistic regression shows that elements such as indoor physical space confort and in door sounds environment confort have a positive effects on the frequency and length visits to the library.

On the perception of level of satisfaction on the quality of library services among library users is influenced by five aspects of library updated library collection, Condusive library place, reliable library services, well trained and skillfull staff as well as functioning library facilities. The majority of respondents 75% perceive library staff as approachable, polite, friendly and empathetic, and are available to respond timely and in humble manner. This results are almost similar to study done by Ojei and Popoola (2023) who indicated that the library staff provides the library services with positive attitudes, prompt and are always ready to respond to users' query, responsiveness, assurance, access, good communications skills and empathy, Library staff positively influences the users access to effective library services. However, most of the library staff perform their duties properly but the complain that they have so many users to serve at one therefore they found they are exhausted with duties, with this observation library management should balance staff and users ratio in service oriented category.

5.2 Conclusion

The study therefore concluded that library staff, library services, library collection and library place are the major essentials factors that affect the perception of the library users in utilization of library facilities in general. Also, the study found out library users indicated that library staff are approachable, polite, friendly and empathetic. Moreover, the study found out that library books collection in various programs was sufficient in the library, the seating arrangement of t is attractive and library collection such as books in a given programs are sufficient. Therefore the study concluded that to in order to satisfy usesr university libraries in Tanzania should intensify positive perception of library users through strengthening and improving library collection, services, library place and having professional staff who provide services in the respective sections in the library.

5.3 Recommendation

Based on the study findings, a number of recommendations are proposed in order to increase level of satisfaction and enhancing positive perception towards university libraries in Tanzania which are;

Library management should:

- Provide library with secretarial services such as photocopy services, offers self-services kiosk an automated printing/phococopying that are easily to use which will improve satisfaction. expansion and rehousing the library with electronic gadgets with enough bandwidth and speedy internet. Currently, living without electronic devices and the internet appears challenging due to the emergence of the intensive use ICTs which have transformed ways of communication, information gathering, sharing, searching and content creation; hence, internet access and online searching can be considered essential in today's world. Libraries must offer internet services to cater to diverse needs of all users in university libraries in Tanzania. They have to ensure digital and online services by provide access to library resources, provide users with remote access to library databases, e books and journals which will minimizes overcrowding and reduce the need for extended physical hours, create a virtual desk by offering online support hence reduce library visits in person during working hours.
- Enhance technological space that provide sufficient power outlet and Wi-Fi access by offering ample charging stations which are fast, reliable Wi-Fi, interactive whiteboards, smart screens and computers that support innovation learning approach.
- Should clearly defined areas for silent study, as noise was identified as a significant issue affecting users satisfaction. Implementing soundproofing measures in this areas to further minimizing noise pollution/use materials that absorb sounds, carpeting, acoustic panels or curtains can help to reduce noise levels.
- Should address the issue of early closing times and lack enough weekend services; It should explore extending their operating hours to accommodate students who are in need of using the facility out of standard hours including weekends. With the increase number of users library should plan 24/7 study areas with limited access to core resources eg Wi-Fi, basic seating etc

The universities in Tanzania should ;

- Offer and improve seating and study space, users do differ in preferences so providing individual study carrels, discussion areas and lounge can accommodate diverse users needs, comfortable furniture that encourage longer study sessions can increase users satisfaction.

- Ensure that libraries are accessible to all kinds of users thus renovation and new buildings should prioritize access with users with disabilities by incorporating ramps, elevators and adequate signage
- Sustainable building practices should be encouraged by the government where by investing eco-friendly design by incorporate renewable enegy such as solar for air conditioning and lighting, using green building materials and installing water serving features (*Gata*) can reduce opearation cost and align with global environmental goals. Also investing in architectural designs can optimize natural ventilation such as high ceilings, open layouts and strategic window placements

The ministry of higher learning through TCU

- Should practice user-centric design approach before making decision on libraries, they should collect feedback in regular bases through survey and focus group discussion to ensure renovation with actual needs. Design should allow adaptability enabling the library to adjust to future changes and users behaviours and technology use.
- Ensures the interior and exterior environment in libraries is safe and friendly to tropical atmospheric conditions by ensuring confortable indoor temperature, enhance air conditioning and lighting, improve natural and artificial ligting, well lit space and reduces eye strain. this could greatly improve user satisfaction.
- Library management in all academic libraries in Tanzania should make sure that Library staff are humble, well behaved and cooperative while serving the users within the library premises. Also, it should be ensured that library staff have the required knowledge and skills required to serve users hence improve positive perception towards the library facility.
- Libraries often should conduct user satisfaction surveys to gather data on users' perceptions of service quality. These surveys typically will include questions about resource availability, staff assistance, facilities, and overall satisfaction.

Declaration and Conflict of Interest.

The author(s) declared no potential conflicts of Interest with respect to the research, authorship, and/or publication of this manuscript.

Funding

The author (s) received no financial support for the research, authorship, and/or publication of this manuscript

Author biographies

Kaishe- Mulungu is a librarian at Mzumbe university Morogoro main campus, She currently purcuing PhD degree studies on information science and technology in College of Natural

and Applied Sciences at Sokoine University of Agriculture. She holds Master's degree in Information studies and BA-Education from University of Dar-es-salaam Tanzania and her areas of interest for research, teaching and consultancy are mainly on library and information centres management, library user studies, information seeking behaviour and information literacy and research methods.

Dr. Consolata Angello is a lecturer at Sokoine University of Agriculture. He holds PhD and Master's in Information Science and technology. She is involved in teaching and supervising students at both undergraduate and postgraduate levels. She has published in several scholarly journals, both local and international, in the field of library and information studies.

Prof. Mugyabuso J.F. Lwehabura is a professor and the former director of Sokoine National Agricultural Library at Sokoine University of Agriculture in Tanzania. His research interests include information literacy and library management

References

Afacan, Y. (2017). Sustainable library buildings: green design needs and interior architecture students' ideas for special collection rooms. *The Journal of Academic Librarianship*, 43(5), 375-383.

Alam, M.J. and Mezbah-ul-Islam, M. (2021). Service quality assessment model for academic libraries. *Global Knowledge, Memory and Communication*. 70 (4/5). 325-338.

Albrecht, S. (2023). *The Safe Library: Keeping Users, Staff, and Collections Secure*. Rowman & Littlefield.

Aminu, M and Trivedi, M. (2022). Evaluating User's Satisfaction of Information Resources and Services in University Library: A Case Study of Shrimati Hansa Mehta Library the Maharaja Sayajirao University of Baroda, Gujarat, India 11(8)

Andaleeb, S. S., & Simmonds, P. L. (1998). Explaining user satisfaction with academic libraries: strategic implications. *College & Research Libraries*, 59(2), 156-167.

Antonia B. D, Amy P.A.A., and Williams E. N. (2024) Torn Between Two Worlds: Perceptions of the Role, Status, and Career Progression of Librarians Working in University Libraries, *The Journal of Academic Librarianship*, 50(2) 102861,

Ashilungu, M. and Onyancha, O.B. (2024), "Faculty-librarian cooperation in collection development at the University of Namibia library, with special reference to electronic resources", *Collection and Curation*, 43 (1) <https://doi.org/10.1108/CC-11-2022-0041>

Bachynska, N., Horban, Y., Novalnska, T., Kasian, V., & Gaisynuik, N. (2024). University Library Information Resources as a Basis for Enhancing Educational and Professional Programmes in Information, Library and Archival Studies. *Acta Informatica Pragensia*.

Bamkin, Marianne (2020) The moral obligation for interlibrary lending. *Journal of Librarianship and Information Science*. ISSN 1741-6477

Bea, G; Musabila, K.; and Deogratus, (2018). Analysis of customer satisfaction with library services at the Sokoine National Agricultural Library (SNAL) in Morogoro region in Tanzania. *Library Philosophy and Practice* (e-journal). [<http://digitalcommons.unl.edu/libphilprac/1899>] (accessed 23 October 2020).

Chandrakar, K. (2024). *Introductory Library Science and Technology*. Academic Guru Publishing House.

Cobblah, M. A. (2015). The contribution of staff training and development programmes to effective library and information services in selected university libraries in Ghana (Doctoral dissertation, University of South Africa).

Cox, A. (2023). Factors shaping future use and design of academic library space. *New Review of Academic Librarianship*, 29(1)

Creswell, J. W., & Poth, C. N. (2016). Qualitative inquiry and research design: Choosing among five approaches. Sage publications.

Dahan, S. M., Taib, M. Y., Zainudin, N. M., & Ismail, F. (2016). Surveying users' perception of academic library services quality: A case study in Universiti Malaysia Pahang (UMP) Library. *The Journal of Academic Librarianship*, 42(1), 38-43.

Dameria, C., Akbar, R., Indradjati, P. N., & Tjokropandojo, D. S. (2020). A conceptual framework for understanding sense of place dimensions in the heritage context. *Journal of Regional and City Planning*, 31(2), 139-163.

Donkor, A. B., Asimah, A. P. A., & Nwagwu, W. E. (2024). Torn Between Two Worlds: Perceptions of the Role, Status, and Career Progression of Librarians Working in University Libraries. *The Journal of Academic Librarianship*, 50(2), 102861.

Elias, J. D., & Lubua, E. W. (2021). The Impact of Usability, Functionality and Reliability on Users' Satisfaction During Library System Adoption. *The Journal of Informatics*, 1(1).

Gómez-Cruz, M. E., Harari-Betancourt, V., & Vergara-Mendoza, G. (2020). Quality indicators and user satisfaction in university libraries. *The Journal of Academic Librarianship*, 46(6), 102230.

Hamilton-Nixon, R. (2019). Academic Libraries as Third Place: Spatial Transformation of the Library Learning Environments at the University of Johannesburg (Master's thesis, University of Johannesburg (South Africa).

Hesari, E., Peysokhan, M., Havashemi, A., Gheibi, D., Ghafourian, M., & Bayat, F. (2019). Analyzing the dimensionality of place attachment and its relationship with residential

satisfaction in new cities: The case of Sadra, Iran. *Social Indicators Research*, 142, 1031-1053.

Idowu, A. O., & Oso, O. O. (2022). Influence of library service quality on perceived librarians' image in selected private universities in South-West Nigeria. *International Journal on Integrated Education*, 5(4), 1-15.

Israel, G. D. (1992). Determining sample size.

Jinendran Jain, S., & Kumar Behera, P. (2023). Visualizing the academic library of the future based on collections, spaces, technologies, and services. *International Journal of Information Science and Management (IJISM)*, 21(1), 219-243.

Kaishe-Mulungu, D.D., Lwehabura, M.J.F. & Angello, C. (2024). Library service provision for improved satisfaction among library users in selected university libraries in Tanzania. *Regional Journal of Information and Knowledge Management*, 9(1), 11-28

Kaushik, D. K. (2022). *Management of Libraries in the New Millennium*. KK Publications.

Kaushik, V and Walsh, A (2019). Pragmatism as a Research Paradigm and Its Implications for Social Work Research. *Soc. Sci.* 8(9), 255 <https://doi.org/10.3390/socsci8090255>

Kekana, M. D., & Kheswa, S. E. (2020). The gap between user perceptions and expectations of students at the main library of the University of KwaZulu-Natal: Pietermaritzburg Campus. *South African Journal of Information Management*, 22(1), 1-9.

Khan, D. K. M., Ali, M. K., & Sunil Kumar, R. (2019). User's Satisfaction on Library &Information Resources, facilities and Services: A Case Study in Vidyavardhaka First Grade College, Mysore. *Research Gate*, 1-21.

Khan, G., Bhatti, R., Jan, R., & Khan, A. (2024). Acquisition Management in the University Libraries of Pakistan: A Provincial Perspective. *New Review of Academic Librarianship*, 1-17

Khan, S. A., & Shahzad, K. (2024). Key features of digital library management system (DLMS) for developing digital libraries: An investigation from LIS practitioners in Pakistan. *Journal of Librarianship and Information Science*, 56(1), 29-42.

Kim J.A. (2018). Dimensions of User Perception of Academic Library as Place 42(5),

Kim, Y. and Yang E., (2022) Academic library spaces and student activities during the COVID-19 pandemic *Journal of Academic Librarianship*. 2022 Jul; 48(4): 102529. Retrieved on doi: 10.1016/j.acalib.2022.102529

Kiriri, P. N. (2018). Service delivery: the perceptions of users' of library services in a private university in Africa. *European Journal of Multidisciplinary Studies*, 3(4), 221-231.

Kothari, C. R. (2014). *Research Methodology: Methods and Techniques* (3rd Ed.). New Delhi: New Age International (P) Limited.

Mahmood, K., Ahmad, S., Rehman, U., S., and Ashiq, M. (2021). Evaluating library service quality of college libraries: the perspective of a developing country. *Sustainability*, 13(5)

Mbua, P. O, Dennis N. and Mostert, J. (2021). service quality gaps and challenges in the academic libraries in Kenya. *Library Philosophy and Practice (e-journal)*. 6201. <https://digitalcommons.unl.edu/libphilprac/6201>(accessed 23 September 2023).

Mbughuni, A. S., Mtega, W. P., & Malekani, A. W. (2022). Exploring academic staff engagement in depositing locally produced research content in open access institutional repositories in Tanzania. *IFLA journal*, 48(4), 523-537.

Merriam S. B., Tisdell E. J. (2015). *Qualitative research: A guide to design and implementation* (4th Ed.). Jossey-Bass.

Miao, Y., Chen, Z., Chen, Y., & Tao, Y. (2024). Sustainable Architecture for Future Climates: Optimizing a Library Building through Multi-Objective Design. *Buildings*, 14(6), 1877.

Molson, A. R. (2022). Perception of postgraduate students towards the quality of library services provided at mzuzu university (Doctoral dissertation, Mzuzu University).

Mubofu C., Mambo H., and Samzugui A. (2020) Academic Libraries and Information Resources Preservation Strategies: Past, Present and the Way Forward. *Covenant Journal of Library & Information Science (CJLIS)* 3 (1) DOI:10.47231/YMKG7952

Mushi, C., Mwantimwa, K., & Wema, E. (2020). Perceptions of librarians towards the adoption of embedded librarianship in Tanzania. *University of Dar es Salaam Library Journal*, 15(2), 21-38.

Mushi, C., Mwantimwa, K., & Wema, E. (2023). Librarians' competencies for implementing embedded librarianship in university libraries. *Journal of Librarianship and Information Science*, 55(3), 798-812.

Mwilongo, K. J., Luambano, I., & Lwehabura, M. J. (2020). Collection development practices in academic libraries in Tanzania. *Journal of Librarianship and information science*, 52(4), 1152-1168.

Nzewi , A. N. (2023). Use of Library and Information Resources among Fresh Students

in University Libraries in College of Health. *Asian Journal of Education and Social Studies*, 48(2), 123–130. <https://doi.org/10.9734/ajess/2023/v48i21059>

Ofori, W.O., Markwei, E. and Quagrain, N.T. (2020), "Marketing intangibles: the case of library services in higher education institutions", *Library Hi Tech News*, Vol. 37 No. 3, pp. 15-20. <https://doi.org/10.1108/LHTN-11-2019-0085>

Ojei, L. N., & Popoola, S. O. (2023). users'perception of staff attitude as a determinant of effective library service delivery in federal universities in South-West, Ningeria. *Library Philosophy & Practice*.

Oguntuase, M. O., Okhakhu, D. O., & Fasae, J. K. (2024). Leadership styles and collection development practices of librarians in academic libraries: a case of Ekiti state, Nigeria. *Collection and Curation*.

Parasuraman, A., Zeithaml, V. Z. & Berry, L. L. (1988). SERVQUAL: a multi-item scale for measuring customer perceptions of service quality. *Journal of Retailing*.64.12-40

Peng, L., Wei, W., Gong, Y., & Jia, R. (2022). University library space renovation based on the user learning experience in two Wuhan universities. *International Journal of Environmental Research and Public Health*, 19(16), 10395. Retrieved on <https://doi.org/10.1016/j.acalib.2016.06.013>(accessed 23 September 2024).

Riratanaphong, C. (2024). Assessing Users' Demand for Library Space: Insights from an Architecture School. *Journal of Architectural/Planning Research and Studies (JARS)*, 21(2), 361-386.

Saragih B. A.P., Jamaluddin and Mahyuni (2021). Analysis of The Influence of The Quality of Library Services on Librar Satisfaction. *Dubai, United Arab EmiratesSch Int J Law Crime Justice*, 4(2): 89-96.

Shahzad A., Hassan R., Aremu A.Y., Hussain A., Lodh R.N. (2021) Effects of COVID-19 in E-learning on higher education institution students: The group comparison between male and female Quality & Quantity, 10.1007/s11135-020-01028-z;Social Indicators Research, Vol. 142, No. 3 (April 2019), pp. 1031-1053 (23)

Somekh, B. (2005). Educational research. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 7-8). London: Sage.

Tashakkori, A, and Teddlie, C. 2008. Mixed Methodology: Combining Qualitative and Quantitative Approaches. Thousand Oaks: Sage Publications.

TCU 2018-available at www.tcu.go.tz

Thokoa, R.L. Naidoo, V. and Herbst, T.H.H. (2022). A review of service quality: Case of the National Treasury of South Africa', Africa's Public Service Delivery and Performance Review 10(1), a567. [<https://doi.org/10.4102/apsdpr.v10i1.567>]

Tribelhorn, S. K., & Young, C. (2022). Key Performance Indicators for Assessing Sustainability in Academic Libraries.

United Nation (2022) The sustainable development goal report 2022

URT (2022) United Republic of Tanzania Higher Education Report

Vijayalatha, C. (2023). Enhanced and Changing Role of Library and Information Professionals in Digital Era. In *Proceedings of National Conference on Exploring the Past, Present, and Future of Library and Information Science* (p. 130)

Wheatley, A., & Hervieux, S. (2019). Artificial intelligence in academic libraries: An environmental scan. *Information Services & Use*, 39(4), 347-356.

