



Impact of Library Service Quality on Customer Satisfaction in Higher Learning Institutions in Mwanza, Tanzania

***Lortha Libent**

ORCID: <https://orcid.org/0009-0007-0880-0378>

Department of Business Administration, College of Business Education, Tanzania

Email: lorthalibent@gmail.com

Paskazia Bulugu

ORCID: <https://orcid.org/0000-0002-6940-9299>

Directorate of Library Services, College of Business Education, Tanzania

Email: paschazia.patrick@gmail.com

***Corresponding Author:** lorthalibent@gmail.com

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Abstract

High-quality library services play a significant role in enhancing user satisfaction and academic performance in higher education institutions. This study examined the influence of library service quality on customer satisfaction in higher learning institutions in Mwanza City, informed by the LibQUAL model through the Affect of Service, Information Control and Library as a Place. The study conducted a survey of 302 students with data being collected based on a structured questionnaire. The study revealed that three dimensions have a noticeable contribution to customer satisfaction. High-quality library services play a significant role in enhancing user satisfaction and academic performance. The study recommends improvement in service delivery, resource access and physical facilities for strengthening satisfaction in Tanzanian higher learning libraries. Continuous user feedback mechanisms are also recommended to support evidence-based service improvement.

Keywords: Service quality; LibQUAL model; customer satisfaction; higher learning institutions; libraries.

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Introduction

Service provided by higher learning institutions influences students' learning experiences and their general satisfaction in the current competitive learning environment (Amoako et al., 2023; Rasheed & Rashid, 2024). In service sector environments, such as Higher Learning Institutions, customer satisfaction and service quality are crucial factors in enhancing organizational performance (Kobero & Swallehe, 2022). In different learning institutions, students and faculty members are now accustomed to quality service, including administrative help to library access, a core element of learning experiences (Beyene et al., 2023). Library services are at the heart of academic excellence as they offer

fundamental support to teaching operations while enabling effective learning and research operations (Caroline & Adewale, 2018). Libraries serve as more than just book-lending centers as they have transformed into dynamic service units which support education and research activities (Nur Fauziyah & Yustikasari, 2024). The need for academic libraries to evaluate and improve their service quality grows as user expectations change to maintain customer satisfaction and institutional importance (Barfi et al., 2023). The assessment of service quality has become essential to achieve ongoing enhancement and user satisfaction while enabling informed decision-making processes.

Across the world, academic libraries must deliver high service quality to maintain customer satisfaction. In 2024, libraries that topped the world in service delivery were ranked as follows; school libraries (2.3 million), public libraries (409,711), academic (85,740), others (40,591), community (29,295) and national libraries (3,024), showing the different types of libraries in education and society, as shown in Table 1 (International Federation of Library Associations and Institutions, 2024). Donati and Festo (2024) indicated that students expect timely information, professional guidance by clerical

staff and well-designed information technology interfaces supporting academic work when delivering library services. In response to these demands, many institutions have developed systematic approaches to evaluate and enhance library service quality and link it to user satisfaction, institutional image and reputation benchmarks (Chen et al., 2022; Khan et al., 2023). Using standardized metrics, libraries collect credible data regarding perceptions of users, evaluate inter-institutional performance and draw up implementable response strategies.

Table 1: Library ranking statistics of the World on service Delivery

Library type	Total number of libraries
National	3,024
Academic	85,740
Public	409,711
Community	29,295
School	2,300,000
Others	40,591

In Africa, effectiveness in ensuring quality of service in academic libraries remains an ongoing challenge, requiring strategic focus on improving customer satisfaction (Ngo'ng' Ocholla et al., 2021). Although universities consider libraries as a cornerstone of academic achievement, persistent problems tend to halt efforts at delivering good services. In developing countries like Tanzania, both institutional and national policies tend to allocate scant resources for infrastructural development of library facilities, collection and integration of libraries with other academic support services frameworks (Mwilongo, 2020). The lack of digital equity further highlights the disparity, especially in rural areas or under-resourced universities, where students have limited access to e-resources or reliable internet connections for browsing (Afzal et al., 2023). In addition, there are inadequate staff for the libraries who are managed by untrained and unskilled personnel with access to limited ongoing professional training. Despite these hurdles, there is an increasing awareness that to improve library services, policy change, appropriate funding, better staff control and user engagement are necessary (Donati & Julius Festo, 2024).

Higher learning institutions that aspire to academic prominence must consistently evaluate and uphold the quality of services provided by their libraries (Barfi et al., 2023). Regular user consultations, systematic feedback collection and performance audits are essential factors in ensuring that library services remain aligned with the evolving

expectations of users. Timely access to both physical and digital resources, supported by seamless and user-centered design, plays a critical role in enhancing user satisfaction. In addition, library staff should be professionally qualified, service-oriented and proficient in contemporary best practices to ensure that library remains a welcoming and effective learning environment.

In Tanzania, particularly within higher learning institutions, increasing attention is being paid to the concept of service quality in academic libraries. Despite this growing emphasis, relatively few libraries have adopted systematic and internationally recognized assessment tools, such as LibQUAL, to evaluate user satisfaction with library services. In an environment characterized by rising academic competition and more sophisticated student population, reliance on informal or ad hoc feedback mechanisms that fail to capture the full scope of the user experience poses a significant risk to the effectiveness and excellence of library services in Tanzanian universities. As formal quality assessment and improvement tools become more prevalent, and as the library profession becomes increasingly aware of its contribution to student success, the use of valid and tested instruments are essential. Failure to do so risks excessive inward focus, potentially diverting attention from the library's fundamental educational mission.

The LibQUAL model, developed by the Association of Research Libraries (ARL), is one of the most widely used instruments for assessing library service

quality. It captures users' perceptions and expectations across three key dimensions: Affect of Service, Information Control and Library as Place. Together, these dimensions reflect the quality of staff–user interactions, the ease with which users can access information resources and the adequacy of the library's physical environment. By examining both functional and emotional aspects of service delivery, LibQUAL enables institutions to identify service gaps and establish development priorities (Sayekti et al., 2022). Moreover, its standardized framework supports benchmarking across institutions, promotes best management practices and strengthens stakeholder accountability.

Numerous studies have examined the relationship between library service quality and customer satisfaction. Alam and Mezbah-ul-Islam (2023), for example, applied SERVQUAL, LibQUAL and SERVPERF models to assess service quality in public university libraries in Bangladesh, using structural equation modelling. Similarly, studies employing the LibQUAL model, such as those by Long et al. (2019) and Mahmood et al. (2021) have demonstrated its effectiveness in measuring both library service quality and user satisfaction, highlighting its robustness and widespread applicability.

In the Tanzanian context, empirical studies explicitly applying the LibQUAL+ model remain limited, although several investigations have addressed library service quality and user satisfaction more broadly (Mubofu, 2023); Patrick & Tweve, 2022). However, their findings also revealed challenges related to unstable network infrastructure and inadequate digital literacy skills among users. More recently, Donati and Julius Festo (2024) identified persistent challenges affecting the quality of library services, further underscoring gaps in service delivery. A notable application of the LibQUAL+ model in Tanzania was conducted by Mutisya and Onyancha (2020) at the African Union Court in Arusha, where Affect of Service recorded the highest mean score (5.74), while Information Control and Library as Place scored comparatively lower.

Collectively, these empirical studies indicate that library service quality, particularly staff behaviour, access to information resources and the physical library environment, play a significant role in shaping user satisfaction. Building on this body of knowledge, this study contributes to the service quality and higher learning literature by empirically

examining how perceived library service quality influences student satisfaction within higher learning institutions in Mwanza, Tanzania. Anchored in the LibQUAL framework, the study assessed the relative influence of Library as Place, Affect of Service, and Information Control on student satisfaction, thereby extending empirical evidence on the performance of a widely applied service-quality model in a Tanzanian context. By generating context-specific insights into the service attributes that matter most to students, the study enhances theoretical understanding of service quality–satisfaction linkages in academic support services and provides actionable guidance for institutional leaders and librarians. The findings offer a basis for targeted service redesign and resource prioritisation aimed at improving student satisfaction, supporting academic success and informing policy decisions on library service standards in Tanzania.

Theoretical Underpinnings

This study was underpinned by two theories: Expectancy Disconfirmation Theory and LibQUAL+ Model as explained below:

Expectancy Disconfirmation Theory

Expectancy Disconfirmation Theory (EDT), developed by Richard L. Oliver, explains how customer satisfaction is formed through a comparison process. Prior to purchase, consumers develop expectations regarding a product or service, which serve as a reference point. After consumption, they evaluate actual performance against these expectations (Schiebler et al., 2025; Elkhani & Bakri, 2016).

When perceived performance aligns with expectations, confirmation occurs; when it deviates, disconfirmation results. Disconfirmation and perceived performance directly influence satisfaction while expectations affect satisfaction indirectly through the disconfirmation mechanism. In practice, dissatisfaction arises when service performance falls below expectations whereas satisfaction occurs when expectations are met or exceeded (Slade et al., 2015).

LibQUAL+ Model

The LibQUAL+ Model is a framework developed by the Association of Research Libraries (ARL) and is widely adopted worldwide to measure users' perceptions of service quality in libraries. According to Folashade et al. (2022) and Parasuraman et al. (2008), the SERVQUAL model originally introduced

by Parasuraman et al. (1988) conceptualizes service quality as the gap between customers' expectations and actual service performance.

The LibQUAL+ model is particularly relevant to this study because it provides a structured, user-centred framework for assessing library service quality. Central to the model is the concept of a service quality gap between what users expect, the level of service they desire and the service they actually receive, which constitutes a major determinant of user satisfaction (Malik et al., 2024). LibQUAL+ is widely regarded as a standard instrument for evaluating library service quality as it captures how users' satisfaction is shaped by their service experiences. Accordingly, this study examines the relationship between library service quality and overall user satisfaction by analysing user feedback. The model offers a clear and intuitive means of understanding how library services are delivered from the users' perspective.

Literature Review

Empirical studies demonstrate the practical application of the LibQUAL+ model, revealing its strengths and limitations in assessing library service quality. This review situates the current study within existing literature, identifies research gaps, and justifies examining library service quality in higher learning institutions.

Global Studies Using LibQUAL+

The LibQUAL+ model assesses user satisfaction by measuring the gap between users' expectations and their perceptions of services received. Across contexts, perceptions of content, access, facilities and intellectual freedom define library service quality. Consequently, the model has been widely used to evaluate library service quality and user satisfaction globally (Devi & Bhatt, 2024; Ip & Wagner, 2020). Rao's (2018) study in U.S. academic libraries found Affect of Service to be the strongest predictor of satisfaction, followed by Information Control and Library as Place, highlighting the importance of interpersonal service and access to information.

Moreover, empirical studies demonstrate that the application of this model enhances the identification of gaps in library service delivery that require improvement (Rao, 2018; Sayekti et al. 2022). Similarly, Mamta and Kumar (2024) as well as Zulfiqar and Khalid (2024), who applied the LibQUAL+ model in university libraries, reported

significant gaps between users' expectations and actual service delivery, particularly in relation to digital resource accessibility and staff responsiveness. In addition, the Association of Research Libraries (2024) has extensively examined library service quality using this model. Collectively, these global studies underscore the effectiveness of the model in diagnosing specific service quality deficiencies and guiding targeted service improvements.

Empirical Studies in Africa

The LibQUAL+ model has been widely utilized in African libraries to assess service quality. Numerous studies across the continent have examined library service quality using LibQUAL+, SERVQUAL or modified assessment frameworks. These studies consistently demonstrate the relevance and applicability of the LibQUAL+ model, even in cases where complementary or alternative frameworks were employed to achieve specific research objectives. For instance, Kekana and Kheswa (2022), in a South African study on library use and user satisfaction, acknowledged the effectiveness of LibQUAL+ in capturing users' perceptions of library services. Their findings revealed that the majority of users were satisfied with the services provided, underscoring the model's utility in evaluating library service quality.

Folashade et al. (2022) conducted a LibQUAL-based assessment of an academic library in Nigeria. The study revealed that most users had high expectations regarding information resources and overall service quality, although they expressed appreciation for the courtesy of library staff. The authors recommended strengthening inter-library resource sharing, training library staff in Information and Communication Technology (ICT) to enhance service delivery and conducting regular user surveys to better understand users' needs and expectations.

In Ghana, Barfi et al. (2023) examined user satisfaction across university libraries and found that overall library service quality fell below user expectations. Notable gaps were identified in staff knowledge, the learning environment and information control. The study recommended the continual application of the LibQUAL+ model as a mechanism for monitoring and driving continuous improvements in library service quality. These studies highlight similar challenges across African libraries, such as limited digital access, space

constraints and underfunding, all of which affect customer satisfaction.

Conceptual Framework

The conceptual framework in Figure 1 is grounded in the Customer Satisfaction Disconfirmation Theory

and the LibQUAL+ Model, which together provide a systematic approach for assessing service quality across three core dimensions (Devi & Bhatt, 2024; Schiebler et al., 2025).

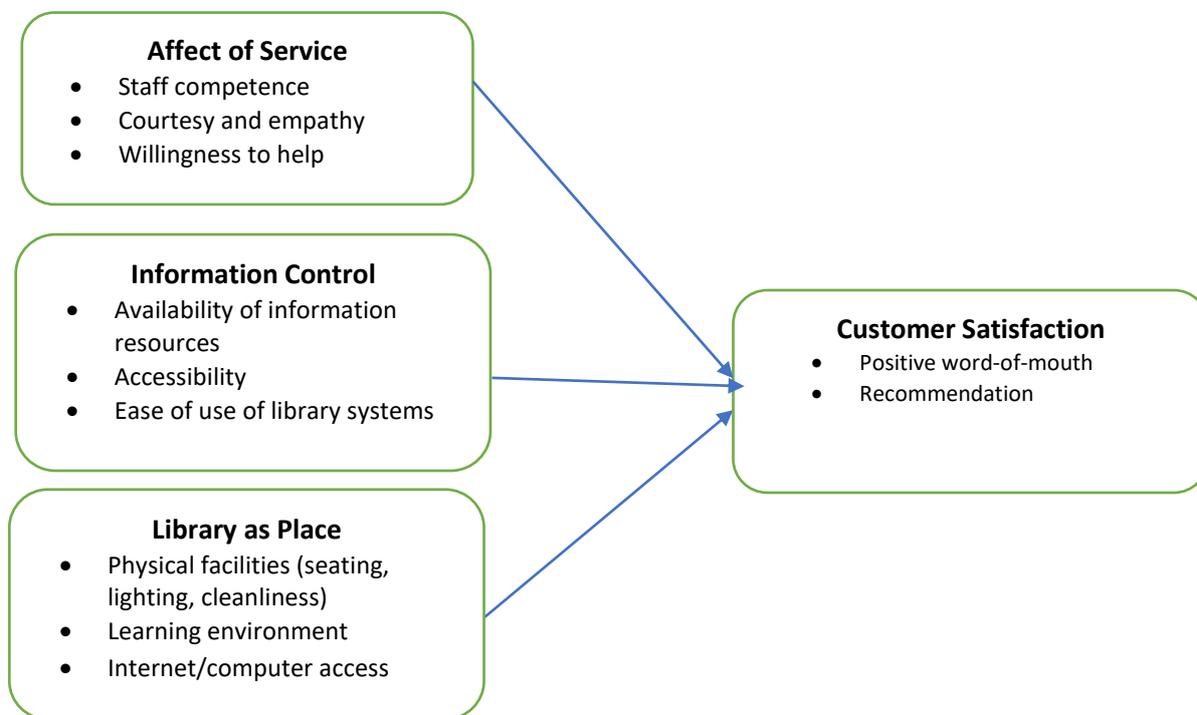


Figure 1: Conceptual Framework

The framework in Figure 1 illustrates the relationship between library service quality components as independent variables and customer satisfaction as the dependent variable. Specifically, it demonstrates that customer satisfaction is shaped by users' perceptions of library services relative to their expectations, consistent with the principle of disconfirmation. Each LibQUAL+ dimension is therefore expected to exert a distinct influence on overall satisfaction outcomes.

Methodology

This section presents the methodology that guided the study.

Design

The study used a cross-sectional research design, whereby data was collected at a single point in time. The study employed the quantitative approach to examine the relationship between the independent and dependent variables.

Population and Sampling

The study was conducted in Mwanza City, encompassing both public and private higher learning institutions. Mwanza City was selected due to its rapid expansion in higher education and urban settlement, making it a suitable context for assessing institutional capacity to meet the demands of a growing and diverse population. The target institutions were Bugando Medical Centre, College of Business Education, St. Augustine University of Tanzania (SAUT), Institute of Rural Development Planning (IRDP), and Tanzania Institute of Accountancy (TIA), selected for their established status and high student patronage in the region. A simple random sampling technique was employed to ensure equal selection probability. The target population comprised registered students eligible to access library services in the selected institutions. A sample size of 384 respondents was determined using Cochran's (1977) formula, which is appropriate when the population size is unknown. In the formula, n represents the sample size, Z

denotes the z-value corresponding to a 95% confidence level (1.96), p represents the estimated population proportion set at 0.5 to maximise sample

size, q is the complement of p (0.5), and e is the margin of error set at 0.05.

$$n = \frac{Z^2 pq}{e^2} = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

However, due to non-response and incomplete questionnaires during data collection, a total of 302 usable questionnaires were obtained. Although this fell short of the initially calculated sample size, the achieved sample remained adequate for statistical analysis and met the minimum requirements for reliable inference in social science research.

Data Collection Methods

Data was collected using a structured questionnaire based on the LibQUAL+ model. The instrument comprised demographic information, library usage patterns and three service quality dimensions: Library as Place, Affect of Service and Information Control along with a student satisfaction scale. All items were measured on a five-point Likert scale ranging from *strongly disagree* to *strongly agree*.

$$\text{Logit } p = \ln \frac{p}{1-p} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where:

P = Probability of the effect of service quality on customer satisfaction

Odds = $p/1-p$ = Probability of no effect of service quality on customer satisfaction

Logit p = Dependent variable (Customer Satisfaction)

β_0 = y - intercept (constant)

β_1, β_2 & β_3 = regression coefficients

X_1, X_2 & X_3 = Affect of service, Information Control & library as a place

ϵ = error term

Validity and Reliability

For validity, the study adopted and improved the variables from (Rizky, 2021; Malik et al., 2024). The items were reviewed and refined to ensure conceptual equivalence, suitability to the local context and clear interpretation by respondents. The final instrument, therefore maintained theoretical consistency with established scales while reflecting the realities of the study environment.

Data Analysis

Both descriptive and inferential statistical techniques were employed in the analysis of the collected data. Descriptive statistics were used to summarize the demographic characteristics of the respondents. To examine the effect of service quality on student satisfaction in line with the three study objectives, a binary logistic regression model was applied. Mean scores obtained from the 5-point Likert scale items measuring satisfaction were first transformed into index scores and subsequently recoded into a binary outcome variable, where 1 = satisfied and 0 = dissatisfied. The relationship between service quality and student satisfaction was therefore estimated using the binary logistic regression model specified below.

The study used the data from the survey questionnaire to test reliability of Affect of Services with 9 items, Information Control with 8 items and Library as a Place with 8 items. All dimensions recorded alpha coefficients above the acceptable threshold of 0.70, indicating satisfactory internal consistency and confirming that the measurement instruments used in the study are reliable (see Table 2).

Table 2: The Cronbach's Alpha Values

Construct	Number of Items	Cronbach's Alpha
Affect of Service	9	0.90
Information control	8	0.85
Library as a place	8	0.89

Findings and Discussion

This section presents and interprets the study findings, according to three hypotheses, summarized using descriptive statistics, including frequency distributions and measures of central tendency and dispersion.

Descriptive Results

A total of 302 students participated in the study. This section presents the respondents' background and library-use characteristics, including gender, age, level of education, frequency of library visits and average time spent per visit, as shown in Table 3.

The results indicate that 164 (54.3%) were female while 138 (45.7%) were male respondents. The relatively even gender distribution indicates that library services and learning support should be planned with both male and female users in mind. This includes fair access to study areas, a safe learning environment and responsive user assistance that does not disadvantage any group. Most participants fell within the 18–34 age group. Since most respondents are under 35, the library

appears to serve mainly younger, early-stage students. This strengthens the case for structured orientation sessions and continuous academic support, particularly in areas such as information literacy, referencing and citation skills, effective database searching and the use of digital learning tools that match the study behaviors of younger users.

Regarding education, the largest share had attained a Bachelor's degree (185; 60.6%) while 84 (28.15%) held a Diploma. A smaller group reported a Master's degree 33 (10.93%) and one respondent indicated having a PhD. The large share of Bachelor's and Diploma respondents suggests that the library's main focus should remain on undergraduate teaching and learning needs. Priority resources should therefore include core textbooks, course readings, past examination papers and introductory research guidance. At the same time, the library should still provide selected advanced materials and dedicated quiet spaces to support the smaller group of postgraduate and doctoral users.

Table 3: Descriptive Results

Attributes	Distribution	Frequency	%
Gender	Male	164	54.3
	Female	138	45.7
Age	25–34 years	104	34.44
	18–24 years	97	32.12
	35–44 years	71	23.51
	45 and above	30	9.93
Education	Diploma	85	28.15
	Bachelor's Degree	185	60.6
	Master's Degree	33	10.93
	PhD	1	0.33
Frequency of Library Use	Daily	128	42.38
	Weekly	105	34.77
	Monthly	44	14.57
	Rarely	25	8.28
Duration of Library Use per Visit	Less than 1 hour	124	41.06
	1–2 hours	102	33.77
	3–4 hours	45	14.9
	More than 4 hours	31	10.26

Patterns of library use suggest relatively high utilization. Nearly half of the respondents reported daily library use (128; 42.38%) and a further 105 (34.77%) reported weekly visits. In terms of time spent per visit, 102 (33.77%) stayed for one to two hours, followed by 45 (14.9%) who reported spending three to four hours in the library. The high daily and weekly usage rates imply strong

dependence on the library, highlighting the need to ensure reliable opening hours, adequate seating capacity, stable internet/Wi-Fi and sufficient print and electronic resources to prevent congestion and service strain. Finally, because most visits last less than two hours, service design should support productive short sessions such as easy-to-access borrowing services, quick reference support, well-

organized shelves, sufficient computers, and flexible study spaces while also providing designated quiet zones and extended-seat options for the minority who study for longer durations.

Tests for the Assumption of Binary

Before estimating the binary logistic regression model, different tests were conducted to ensure that the data satisfied the key assumptions for binary outcome modelling and that the resulting coefficients and inferences would be valid. Specifically, multicollinearity, correlations using VIF/tolerance, factor analysis and goodness-of-fit measures were used to ensure that the binary model was statistically sound for hypothesis testing and interpretation.

Multicollinearity

In a Binary Logistic Regression Model, the exogenous variables should be independent of one another to avoid multicollinearity, which decreases the accuracy of the model estimates (Senaviratna & Cooray, 2019). Pearson correlation measures and Variance Inflation Factor (VIF) measures assessed the prevalence of multicollinearity in Table 4 and 5. Levels reported in Table 4 show that the inter-correlations between the three dimensions are all less than the 0.8 cutoff. Therefore, no indication of multicollinearity was identified because the relative intercorrelations between the variables were quite low in the correlation matrix.

Table 4: Correlation Matrix

	Affect of Service	Information Control	Library as a Place
Affect of Service	1.000		
Information control	0.466	1.000	
Library as a place	0.558	0.321	1.000

Table 5: Variance Inflation Factor Matrix

	Tolerance	VIF
Affect of Service	0.597	2.603
Information control	0.496	3.114
Library as a place	0.443	2.001

Table 6: Goodness of Fit

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.781	
Bartlett's Test of Sphericity	Approx. Chi-Square	1462.663
	Df	25
	Sig.	0.000

Table 5 summarises the multicollinearity diagnostics for the three predictor dimensions included in the model. The variance inflation factor values are modest, ranging from 2.001 for Library as a Place to 3.114 for Information Control, while the associated tolerance statistics range from 0.443 to 0.597. In applied regression analysis, multicollinearity is typically considered problematic when variance inflation factor values exceed 10, corresponding to tolerance values below 0.10. Kim (2019) recommends closer study when variance inflation factor values exceed 5 or tolerance values fall below 0.20. On this basis, the results in Table 5 indicate that collinearity among predictors is not severe, and it is therefore unlikely to meaningfully inflate standard errors or undermine the stability and interpretability of the regression coefficients in the subsequent models.

In order to establish whether data could be analyzed with factor analysis, the study conducted the Kaiser-Meyer-Olkin (KMO) index of sampling adequacy and Bartlett's Test of Sphericity. The resultant KMO value that came out was 0.781 as seen in Table 6. The Kaiser-Meyer-Olkin (KMO) measure ranges from 0 to 1, where higher values indicate that the correlation patterns are compact enough to yield reliable factors. Thus, the sample was adequate, and the items contained sufficient common variance to go ahead with the utilization of factor analysis. Bartlett's Test of Sphericity confirmed the data to be suitable. The test produced an approximate chi-square value of 1462.663 with 25 degrees of freedom and a significance level of $p = 0.000$. Since the significance level was below the 0.05 threshold, the null hypothesis that the correlation matrix is an identity matrix was rejected. Therefore, the variables were sufficiently interrelated to allow for

meaningful factor extraction. Overall, the results from both the KMO and Bartlett's Test confirm that the dataset met the statistical requirements for factor analysis, supporting its application in this study.

The results of the binary logistic regression analysis, as presented in Table 7 show that the overall model provided a good fit to the data. The Omnibus test of model coefficients yielded a Chi-square value of 72.541 with three degrees of freedom and a significance level of $p < 0.001$. This indicates that the inclusion of the three service quality dimensions significantly improved the prediction of customer satisfaction. The 2 Log Likelihood statistic was

319.487, further confirming the suitability of the model. In addition, the pseudo-R-square measures suggested moderate explanatory power. Specifically, Cox and Snell R^2 recorded a value of 0.224, showing that about 22.4% of the variation in customer satisfaction was explained by the model. The Nagelkerke R^2 value of 0.312, often viewed as a more adjusted measure, indicated that the model accounted for approximately 31.2% of the variance in satisfaction. The Hosmer and Lemeshow tests assessed the model's fit. The test produced a Chi-square value of 9.612 with three degrees of freedom and a non-significant p-value of 0.173 in Table 7.

Table 7: Binary Logistic Regression Results

Variables	B	SE	Sig	Exp (B)
Affect Of Service	1.652	0.285	0.000	5.218
Information Control	1.438	0.312	0.002	4.213
Library As A Place	1.327	0.298	0.001	3.771
Constant	1.105	0.177	0.000	3.019
Omnibus test – Chi-square	72.541 (3), $p = 0.000$			
Hosmer and Lemeshow – χ^2	$\chi^2 (3) = 9.612, p = 0.173$			
Cox & Snell R^2	0.224			
Nagelkerke R^2	0.312			
-2 Log Likelihood	319.487			

Note: Dependent Variable; Customer Satisfaction (Satisfaction=1, Dissatisfaction)

Binary Logistic Regression Results

This study sought to determine the influence of three service quality dimensions: Affect of Service, Information Control and Library as a Place on customer satisfaction. Table 7 provides the Binary Logistic Regression analysis findings.

Affect of Service and Customer Satisfaction

The analysis was conducted to test the hypothesis that the Affect of Service has no significant relationship with customer satisfaction among library users. The regression analysis results in Table 7 indicate that the coefficient for Affect of Service was positive ($B = 1.652$) and statistically significant ($p = 0.000$). The odds ratio of 5.218 suggests that for each unit increase in the quality of affective services, the likelihood of customer satisfaction increases by more than five times. These findings provide strong evidence of a significant positive relationship between affective service quality and customer satisfaction. Consequently, the null hypothesis (H_1) was rejected. These results are consistent with Simba (2020) whose LibQUAL+-based assessment at a Tanzanian private university showed that staff-facing items, such as friendliness, readiness to assist and willingness to help exhibited

smaller expectation, perception gaps than many resource and facilities items, underscoring the role of courteous and responsive personnel in shaping satisfaction. Similarly, Mutisya and Onyancha (2020). found that the African Court on Human and Peoples' Rights Library in Arusha performed comparatively well on the affect-of-service aspects underpinning the importance of empathy, staff engagement and attentive support towards the overall perceptions of service quality.

Information Control and Customer Satisfaction

This study was guided by the hypothesis that Information Control has no significant relationship with customer satisfaction. The findings in Table 7 show that Information Control recorded a positive coefficient ($B = 1.438$) with a significance level of $p = 0.002$. The odds ratio of 4.213 implies that improved access to and management of information increases the likelihood of customer satisfaction by more than four times. This demonstrates a significant positive relationship between information control and satisfaction, leading to rejection of the aforementioned null hypothesis. These results support prior LibQUAL evidence by Barfi et al. (2023) that identified availability and dependable

access to information resources (including collections and e-resources) as key indicators of Information Control. The study showed that stronger performance on these indicators is associated with higher levels of user satisfaction. The same evidence is observed from a UK university indicating that restructuring retrieval and ensuring timely access to core library information resources via a unified reading library system measurably improved students' experience, underscoring efficient information systems as a driver of perceived service quality and satisfaction (Cleverley & Heeson, 2019).

Library as a Place and Customer Satisfaction

This study was guided by the hypothesis that Library as a place has no significant relationship with customer satisfaction. A positive and significant effect of Library as a Place on customer satisfaction was observed in the analysis, with a coefficient value of $B = 1.327$ and a significance level of $p = 0.001$ in Table 7. The odds ratio of 3.771 indicates that for every unit improvement in the library's environment and facilities, the likelihood of satisfaction increases nearly fourfold. Therefore, the null hypothesis was rejected. These findings support the work of Peng et al. (2022), who showed that the quality of interior design, physical environment elements in terms of lighting, temperature, noise and the availability of study facilities are significant predictors of user satisfaction with university library spaces. Similarly, Zheng et al. (2024) demonstrated that a well-designed library environment significantly boosts students' learning engagement directly for liberal arts students and indirectly for science students by fostering their interaction, underscoring that physical space quality is crucial in enhancing user engagement and satisfaction.

Conclusion and Recommendation

Based on the findings, the study concludes that library service quality is a meaningful component of user satisfaction in higher learning institutions. Affect of Service is the most dominating effective component, accentuating the significance of staff responsiveness, empathy and reliability in shaping students' perceptions of library worth. Information Control played a pivotal role, demarcating the need for effective access to, organisation of and retrieval of both print and electronic information resources. Library as a Place was comparatively less dominant, yet essential component of user satisfaction, validating the continued relevance of skilfully planned and enhanced substantial learning context.

Therefore, elevating user satisfaction necessitate an integrated service approach that in parallel vitalises human service delivery, utilises information systems and nurture favourable library amplitude to run across and surpass user expectations. The study, therefore, recommends that higher learning institutions need to adopt an integrated and prime concern approach to enhance library service quality by concentrating first on vitalising staff-related service delivery, followed by reinforcing gateways to and utilisation of information resources, and finally enhancing substantial learning context.

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