

RESEARCH ARTICLE

User Satisfaction with Academic Library Services: A Cross-Sectional Study at Trincomalee Campus, Eastern University, Sri Lanka

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Abstract: Academic libraries require regular user assessments to ensure that their services remain responsive to changing academic and information needs. However, no recent user satisfaction assessment had been conducted at the Library, Trincomalee Campus, Eastern University, Sri Lanka, leaving current service effectiveness, digital access, and emerging user expectations insufficiently documented. This study evaluates user satisfaction with library services at the Library, Trincomalee Campus, Eastern University, Sri Lanka. Using a cross-sectional survey design, data were collected from 101 students across three faculties. Satisfaction was assessed across five service domains: environment and facilities, policies and procedures, information resources, service accessibility, and overall user experience. Descriptive statistics and Pearson's correlation analysis were used, complemented by thematic analysis of open-ended responses. Findings indicate high satisfaction with staff support and library cleanliness, while lower ratings were observed for availability of updated resources and website usability. Strong correlations were found between overall satisfaction and borrowing policies, document delivery services, and resource relevance. Users emphasized the need for enhanced digital access, flexible policies, expanded collections, and improved study spaces. The study highlights the importance of continuous user-centered evaluation for evidence-based library management and service improvement. The findings provide practical evidence for collection development, digital-service improvement, policy revision, and user oriented library planning. The study also demonstrates the importance of regular user satisfaction assessments for evidence-based decision-making and continuous service improvement in academic libraries.

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ARTICLE HISTORY

Received

01 February 2026

Accepted

25 June 2026

KEYWORDS

Library user satisfaction,
Academic libraries,
Service quality, Digital
access, Sri Lanka

INTRODUCTION

University libraries are integral to higher education institutions, providing essential academic, research, and information support to students, faculty, and scholars. In contemporary learning environments, libraries have evolved beyond traditional roles as repositories of printed materials to become dynamic knowledge hubs that foster innovation, collaboration, and digital scholarship. Consequently, regular assessment of library services has become vital to ensure that user needs are effectively met and that services remain relevant in rapidly changing educational contexts. (Jayasundara et al., 2009; Wanigasooriya, 2018; Velnamby & Sivesan, 2013)

Globally, academic libraries are increasingly adopting user-centered approaches to evaluate their performance and to inform evidence-based decision making in areas such as resource allocation, collection development, and technological integration. Understanding user satisfaction levels provides meaningful insights

into how effectively a library fulfills its mission and contributes to institutional quality assurance frameworks. Moreover, user feedback plays a crucial role in identifying service gaps, prioritizing improvements, and shaping policies that enhance the overall learning experience. (Jayasundara et al., 2009; Hossain, 2016)

In Sri Lanka, university libraries have undergone significant transformations over the past decade, particularly with the integration of digital platforms, online databases, and open-access repositories (Jayasundara et al., 2009). However, systematic evaluations of library user satisfaction remain limited, especially within regional campuses. Most existing studies focus on main university libraries, leaving a research gap in understanding how peripheral campuses often operating with fewer resources meet the information needs of their users. Addressing this gap is critical, given that these campuses play a vital role in ensuring equitable access to education and knowledge across diverse geographical and socio-economic contexts.

The Library, Trincomalee Campus, Eastern University, Sri Lanka, supports three distinct faculties, namely the Faculty of Applied Science (FAS), the Faculty of Business and Communication Studies (FCBS), and the Faculty

DOI: <https://doi.org/10.65714/ejlis262105>



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Publisher: Eastern University, Sri Lanka

of Siddha Medicine (FSM). As a growing academic library serving a multidisciplinary community, it faces challenges in balancing physical and digital resource provision while maintaining high-quality services under resource constraints. In recent years, the library has introduced new initiatives such as research support services, online resource access, and user-centered feedback mechanisms. However, with increasing student enrollment and evolving academic needs, assessing user satisfaction has become essential to guide further service enhancement and policy development.

Despite ongoing developments, no user satisfaction assessment has been conducted at the Library, Trincomalee Campus, Eastern University, Sri Lanka in nearly a decade, leaving current service effectiveness, digital access, and emerging user needs undocumented.

Hence, this study evaluates user satisfaction across key dimensions of library services, including environment, facilities, policies, resources, accessibility, and staff support. The research identifies both strengths and areas requiring improvement, providing a holistic understanding of how users perceive the library's effectiveness in supporting academic and research activities.

The objectives of this study are:

1. To examine user perceptions of the library environment, facilities, and resources.
2. To assess satisfaction levels across key service dimensions.
3. To determine correlations between service components and overall user satisfaction.
4. To analyze user feedback to identify actionable strategies for continuous improvement.

LITERATURE REVIEW

Academic libraries increasingly use standardized instruments to evaluate service quality and user satisfaction for evidence-based improvement. Two models dominate globally, LibQUAL+ and SERVQUAL. LibQUAL+, developed by the Association of Research Libraries (ARL), measures perceived, minimum, and desired service levels across dimensions such as effect of service, information control, and library as place. It enables longitudinal benchmarking and global comparison and has been adapted to Sri Lankan university contexts (Wanigasooriya, 2018).

The SERVQUAL framework, originally introduced by Parasuraman et al. (1988),

evaluates service quality across tangibility, reliability, responsiveness, assurance, and empathy. It has been widely applied in library settings, including Sri Lankan university libraries, where it helped identify predictors such as responsiveness, supportiveness, building environment, and web services as key drivers of satisfaction (Jayasundara et al., 2009; Velnamby & Sivesan, 2013).

Sri Lankan evidence on user satisfaction

Within Sri Lanka, several studies provide a useful baseline. At the Open University of Sri Lanka, Amarasekara and Marasinghe (2020) reported that satisfaction varies by service dimension. Facilities and staff support tending to rate higher than website and digital services, underscoring the need to align collections and interfaces with evolving user expectations. Kaushamalika and Weerakoon (2020) compared three regional centers and likewise highlighted differentiated satisfaction levels across facilities, services, and e-resources.

Earlier, Seneviratne (2006) and Chandrasekar and Murugathas (2013) demonstrated how structured user surveys guide targeted collection development and service adjustments in Peradeniya and Jaffna respectively. Collectively, these studies affirm the value of periodic user assessments in Sri Lankan university libraries and identify persistent pressure points around e-resource access, website usability, and space.

Website usability and digital access as satisfaction drivers

Studies across Asia emphasize that website usability, system reliability, and access pathways are strong predictors of user satisfaction. In Sri Lankan libraries, "Web services" and "technology" emerged as significant satisfaction dimensions (Jayasundara et al., 2009). Global literature echoes this, finding that user perceptions of navigation, search efficiency, and responsiveness affect continued library use (Hossain, 2016).

Collections, access policies, and staffing

Relevance and currency of collections are consistently linked to satisfaction and perceived library value. In Sri Lankan libraries, inadequate collection development policies have been found to result in unbalanced holdings and lower satisfaction (Fernando, 2007). At the same time, staff responsiveness and guidance remain among the most influential satisfaction factors (Ranaweera et al., 2018). This highlights the role of positive staff interactions in shaping users'

experiences with library systems and spaces.

Document delivery and interlibrary access

Where local holdings are limited, interlibrary loan and document delivery services enhance access and satisfaction. Empirical findings from university library networks show that efficient request handling and collaboration improve perceived service quality (Somaratna & Peiris, 2011).

The reviewed literature highlights several critical levers for improving user satisfaction in Sri Lankan academic libraries. Ensuring relevant and up-to-date collections through clearly defined collection development policies and transparent acquisition processes enhances perceived academic value. Improving digital usability and infrastructure, including effective discovery tools, reliable Wi-Fi, and seamless remote access, strengthens access and ease of use. Additionally, greater staff responsiveness and flexible policies aligned with academic workflows positively shape user experiences. Together, these insights guide the present study's emphasis on the library environment and facilities, policy operations, materials availability, service access, and overall user experience.

RESEARCH METHODS

A cross-sectional descriptive survey was employed to evaluate user satisfaction with library services at the Library, Trincomalee Campus, Sri Lanka. The design captured self-reported perceptions at a single point in time and enabled quantitative comparison across major service dimensions, supplemented by qualitative insights from an open-ended item. The study was conducted at the Library, Trincomalee Campus which serves three faculties: the Faculty of Siddha Medicine (FSM), the Faculty of Business and Communication Studies (FCBS), and the Faculty of Applied Science (FAS). During the study period, the total student population across these faculties was 2548 students (FAS = 536, FCBS = 1710, FSM = 302). However, the survey targeted active library users rather than the entire student population. Based on average daily library attendance records, approximately 200–230 students used the library regularly during the data collection period. Accordingly, 230 questionnaires were distributed among students who visited the library and were willing to participate in the survey. Out of these, 101 valid responses were received, resulting in a response rate of 43.9%.

The study examined perceptions of library services among registered students from the three faculties using both quantitative and qualitative approaches. Quantitative analysis was used to evaluate satisfaction levels across key service dimensions, while qualitative feedback from open-ended responses provided additional insights into user experiences and suggestions for improvement. This mixed analytical approach enabled a comprehensive assessment of library service performance and provided evidence to support service enhancement and user-centered management practices within Sri Lankan academic libraries.

Data were collected using a structured questionnaire consisting of demographic questions and closed-ended items measured on a five-point Likert scale (1 = very poor to 5 = excellent). The instrument covered five service domains: library environment and facilities; library policies and operational procedures; availability and diversity of information materials; accessibility of services and materials; and overall user experience, including staff effectiveness. An additional open-ended question invited suggestions for improvement, which were analyzed thematically. The questionnaire domains were developed to reflect the local service context and align with commonly used evaluation dimensions in library and information science research.

The survey was administered from March to December 2024. Participation was voluntary, and each respondent was allowed to submit the survey only once. To interpret the mean scores obtained from the five-point Likert scale, satisfaction levels were categorized into three ranges following commonly used approaches in survey-based evaluation studies (Boone & Boone, 2012). Mean values between 1.00–2.33 were interpreted as low satisfaction, 2.34–3.67 as moderate satisfaction, and 3.68–5.00 as high satisfaction.

Quantitative data were analyzed using descriptive statistics to summarize satisfaction levels, graphical visualizations to illustrate rating distributions, and Pearson's correlation analysis to examine relationships between selected service factors and overall user satisfaction. The statistical analyses were conducted using Microsoft Excel. Qualitative responses obtained from the open-ended question were analyzed using an inductive thematic approach, which involved open coding and grouping responses into recurrent themes. The findings are presented at the aggregate level to ensure clarity and protect respondent confidentiality.

The survey did not collect sensitive personal identifiers beyond optional contact details. Participation was voluntary, and all responses were recorded and analyzed in de-identified form to ensure respondent confidentiality. As participation was based on voluntary self-selection, the sample may over-represent or under-represent certain faculties or student groups. Furthermore, the findings reflect user perceptions during the specific period of data collection and may not capture changes in user needs or service conditions over time. Since the study focuses exclusively on student users at a single campus, the generalization of results to other user groups or institutions should be approached with caution.

RESULTS AND DISCUSSION

The demographic analysis of survey respondents provides insights into the composition of library users at Trincomalee Campus, Eastern University, Sri Lanka, and evaluates whether it accurately represents the total student population.

The responses were collected from students across the Faculty of Siddha Medicine (FSM), Faculty of Business and Communication Studies (FCBS) and Faculty of Applied Science (FAS) with 47.0% of survey respondents from FSM, 42.0% from FCBS, and 11.0% from FAS. A comparison with the total student population shows that FSM accounts for only 11.9% of the total university composition, FCBS represents 67.1%, and FAS constitutes 21.0%, indicating an overrepresentation of FSM respondents and an underrepresentation of FCBS students in the survey.

User perceptions of the library environment, facilities, and resources

User responses collected through the survey indicate varying levels of satisfaction across these service components. Overall, users expressed positive perceptions regarding the cleanliness of

the library environment and the support provided by library staff. However, moderate satisfaction was observed in relation to physical facilities such as seating space, furniture quality, and library size.

In contrast, the availability and currency of information materials received comparatively lower ratings. Respondents particularly indicated dissatisfaction with the availability of the latest academic materials and the diversity of the collection. These findings suggest that while the physical environment and staff services are generally perceived positively, improvements are needed in collection development and resource availability to better support the academic needs of users.

User satisfaction analysis

User satisfaction was analyzed across various service categories, including “library environment and facilities”, “library policies and operational procedures”, “information materials availability and diversity”, “accessibility of library services and materials”, and “overall experience”. The average satisfaction rating received for each category are shown in the figure 1 presents average user satisfaction ratings (1–5 scale) across five library service categories. “Overall library experience” and “library environment and facilities” achieved high satisfaction levels (above 3.5), while “accessibility of library services and materials,” “information materials availability and diversity,” and “library policies and operational procedures” were rated at moderate satisfaction levels (around 3.0). The average user satisfaction received from the analysis for each criterion under each library services are expressed in the figure 2.

Library environment and facilities

The study assessed user satisfaction with various environmental aspects of the library, including cleanliness, ambiance, size, and furniture quality. Among these, cleanliness received the highest

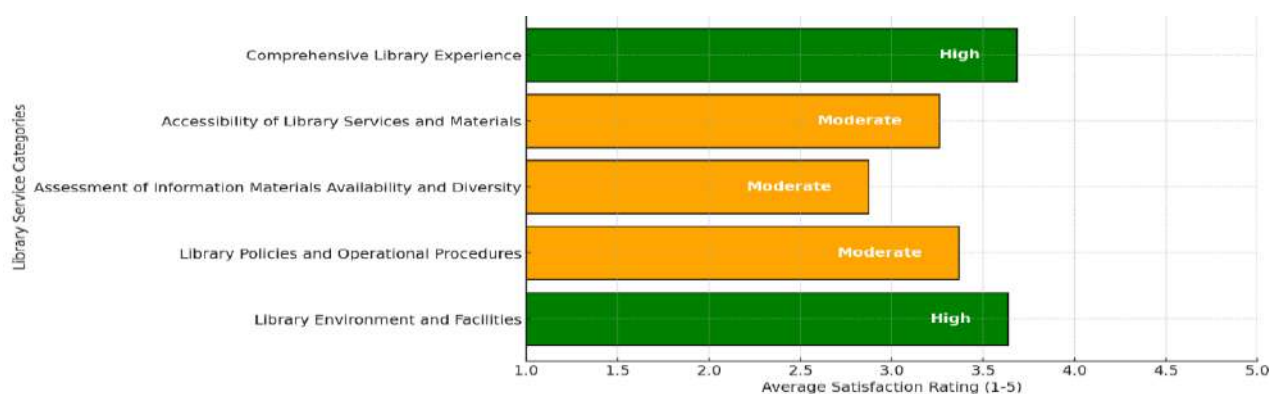


Figure 1: User satisfaction ratings across library services

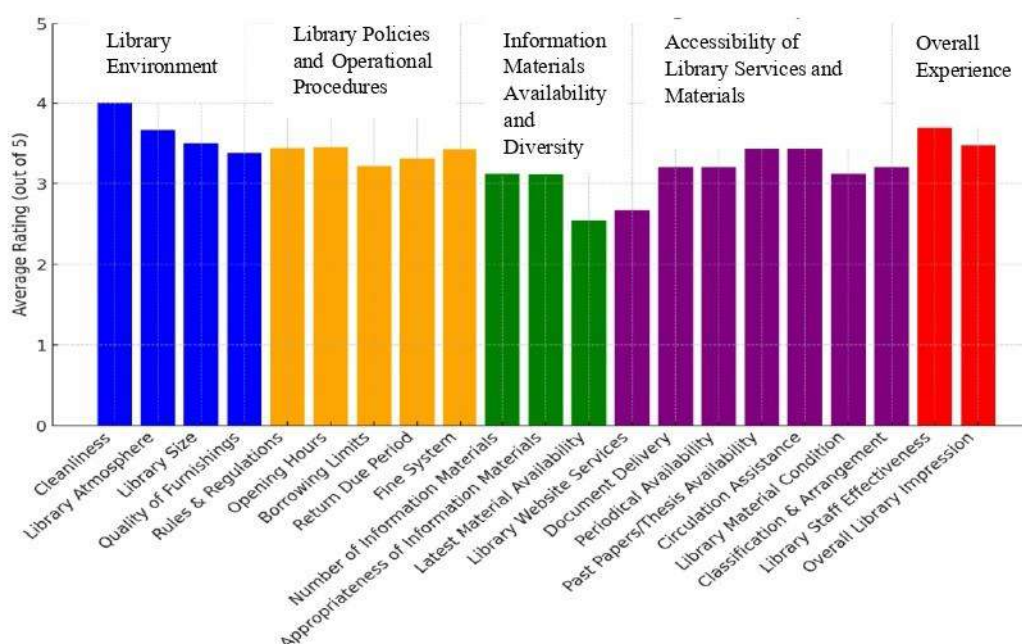


Figure 2: User satisfaction ratings across criteria mentioned under the li-

rating (4.24 ± 0.78), indicating a high level of user satisfaction with hygiene and maintenance, with relatively low variation among responses. The library atmosphere (3.66 ± 0.93) showed slightly more variability, suggesting differing opinions on comfort and ambiance. However, furnishings (3.38 ± 0.99) and library size (3.50 ± 1.21) received lower ratings, with a larger SD, indicating polarized opinions—some users were satisfied, while others found them inadequate. The results highlight that improving furniture and optimizing space utilization can enhance the overall library experience.

Library policies and operational procedures

User perceptions of library policies and regulations showed moderate satisfaction with some variation. Rules and regulations (3.44 ± 0.94), borrowing limits (3.22 ± 1.15), and the fine system (3.43 ± 1.00) had slightly higher SD values, indicating divergent opinions, some users found these policies reasonable, while others felt they were restrictive. Similarly, opening hours (3.45 ± 1.21) and return due periods (3.31 ± 0.95) showed moderate satisfaction with a range of responses. More flexible borrowing policies and extended hours correlate with higher user engagement (Demekaa et al., 2021). Future policy adjustments, such as extended borrowing privileges, fine waivers for special cases, or flexible operating hours during exam seasons, could enhance overall user satisfaction.

Information materials availability and diversity

The most significant concern in this study was the availability and relevance of information materials. Latest material availability (2.54 ± 1.16) had the lowest mean rating, with a high SD, confirming significant dissatisfaction and diverse expectations. Similarly, the number of available materials (3.12 ± 1.01) and their appropriateness (3.11 ± 1.01) were rated slightly above average but showed moderate variation, implying that while some users found resources sufficient, others struggled to find. These findings reinforce the need for regular collection updates, enhanced digital resources, and improved access to contemporary academic materials.

Library services and materials

Ratings for library services and accessibility varied notably. Website services received lower ratings (2.67 ± 1.15), highlighting usability issues and varying awareness levels. Conversely, past papers/theses availability (3.53 ± 0.94) and circulation assistance (3.50 ± 0.91) showed higher and more consistent satisfaction. The classification and arrangement of materials (3.20 ± 1.12) revealed mixed experiences. These findings align with studies indicating poor digital interfaces reduce user engagement (Meesad & Mingkhwan, 2024). Improving website navigation, search functionality, mobile responsiveness, and promoting digital resources could enhance user satisfaction and accessibility.

User experience

The overall library impression (3.48 ± 0.99) was above average but not outstanding, reflecting a mix of positive and neutral perceptions. Library staff effectiveness (3.89 ± 0.79) received the highest rating among service aspects, with low SD, indicating that most users consistently value staff support and assistance. However, since overall satisfaction is shaped by multiple factors, improvements in furniture, digital services, and resource availability could further elevate the user experience.

Correlation analysis in library satisfaction

Correlation analysis revealed strong relationships between library services and user satisfaction, highlighting key areas of strength and improvement. Notably, significant positive correlations were observed between overall satisfaction and document delivery services (0.74), library staff effectiveness (0.71), periodical services (0.72), and borrowing policies (0.82).

The strongest correlation (0.88) was found between the sufficiency and appropriateness of information materials, underscoring the importance of relevant resources over mere quantity. Additionally, a moderate correlation (0.80) between fine system satisfaction and overall satisfaction indicated that user-friendly fine structures positively influence user perceptions, whereas strict fine policies might negatively impact satisfaction.

Although primarily positive correlations were examined, potential negative influences, such as

overly restrictive borrowing policies should also be acknowledged, as these may discourage library use despite being necessary for effective resource management. These insights suggest that enhancing digital document delivery, improving staff responsiveness, maintaining relevant material collections, and adopting flexible borrowing and fine policies can significantly boost library user satisfaction.

Thematic analysis of open-ended user feedback

The thematic analysis was conducted based on qualitative feedback from open-ended survey responses. Several recurring themes emerged from user comments, offering deeper insights into user perceptions and suggestions for service enhancement.

Theme 1: Collection sufficiency and relevance

A dominant theme concerned the adequacy and currency of the library collection. Although some users noted improvements in acquiring new books and journals, many highlighted outdated materials and limited core textbooks.

Students requested recent research literature, specialized texts, and databases. Feedback indicates a need for continuous updates and user-driven acquisition to better match academic scope and timeliness.

Theme 2: Digital access and website Usability

Digital infrastructure was a major concern. Users reported difficulty navigating the website, slow search functions, and limited awareness of available e-resources. Many were unsure how to access past papers, theses, or databases. Students

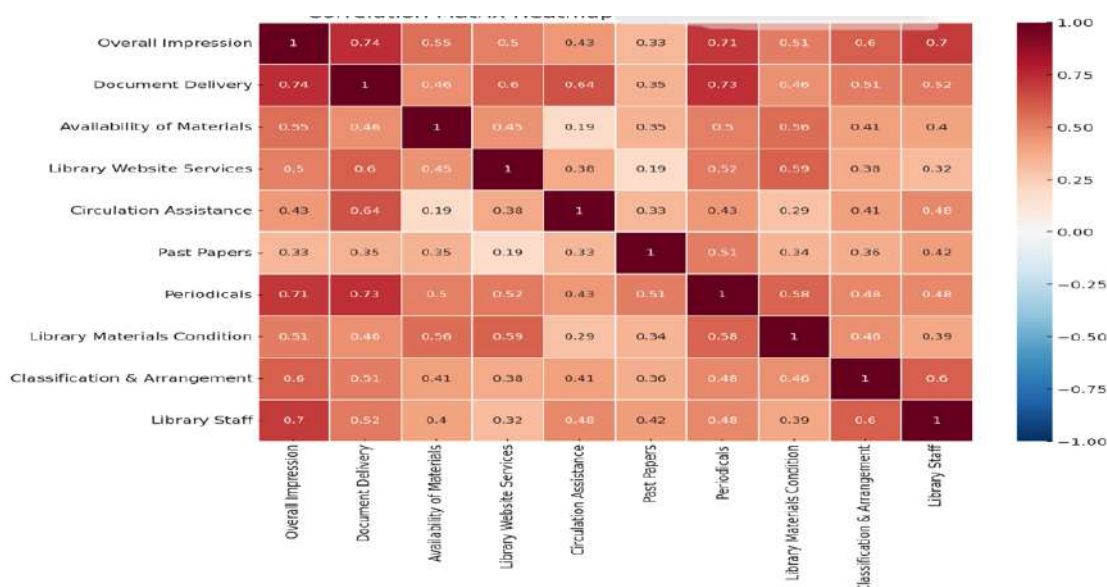


Figure 3: Correlation matrix heat map

requested easier online access, improved orientation, and website redesign, including better search tools, guides, training, and expanded remote database access.

Theme 3: Borrowing policies and fines

Borrowing policies were a concern. Students found loan periods too short, especially during exams and assignments, and viewed fines as overly strict, discouraging borrowing. Users requested flexible rules, grace periods, reduced penalties, alternative fine options, and longer loans for high-demand materials. Findings show borrowing policies significantly influence overall satisfaction and user experience.

Theme 4: Library environment and study space

Feedback on the physical environment was mixed. Users valued cleanliness and quiet study conditions but cited insufficient seating, poor ventilation, limited power outlets, and occasional noise. Suggestions included expanding seating, adding group and quiet study zones, improving accessibility and ergonomics, and upgrading infrastructure to better support comfort and academic work.

Theme 5: Staff support and service satisfaction

Users highly praised staff helpfulness, politeness, professionalism, and research support, marking staff service as a key strength. However, some reported limited staff availability during peak hours. Respondents recommended improved staffing schedules and ongoing professional training to maintain service quality, ensure consistent support, and enhance overall

Suggestions for future enhancements

Beyond feedback on existing services, users provided forward-looking suggestions to strengthen library operations.

Table 1 summarizes key user recommendations extracted from qualitative responses, alongside the library's current status and proposed actions. The findings indicate that while users appreciate existing services, they have articulated clear expectations for improvement. The strongest calls centered on updating and expanding both print and digital collections, improving online accessibility, and ensuring reliable connectivity. Enhancing environmental comfort, increasing study spaces, and maintaining consistent staff support were also emphasized as priorities for an improved user experience.

CONCLUSION

User satisfaction with library services at the Library, Trincomalee Campus, Eastern University, Sri Lanka was evaluated by this study, with a focus on key service dimensions including the library environment and facilities, policies and operational procedures, availability of information materials, accessibility of services, and overall user experience. By integrating quantitative survey results with qualitative user feedback, the study provides a comprehensive and evidence-based understanding of how effectively the library supports academic and research activities.

Overall, the findings indicate that majority of the respondents stated positive perception of the

Table 1. Summary of user suggestions and proposed actions

User Suggestion	Current Status	Proposed Action
Extend borrowing duration	Limited loan period	Increase loan duration during examination periods
Improve digital access	Website offers limited e-resources	Upgrade digital collections and enhance online navigation
Adopt flexible fine policies	Strict fines on late returns	Introduce grace periods and alternative penalty options
Increase study spaces	Limited seating capacity	Expand seating areas and create study-friendly zones
Enhance website usability	Navigation issues and slow search function	Redesign website and strengthen search functionality
Expand access to periodicals and journals	Limited journal subscriptions	Secure access to high-impact journals and databases
Introduce a book request system	No formal mechanism for user requests	Implement a formal book recommendation/request system
Improve Wi-Fi connectivity	Unstable connection in some areas	Strengthen internet connectivity across the library premises
Increase staff availability during peak hours	Staff shortages during busy periods	Deploy additional staff during high-demand times

library, particularly with regard to staff effectiveness, cleanliness, and the overall learning environment. Library staff support emerged as a major strength, consistently receiving high satisfaction ratings and demonstrating its critical role in shaping positive user experiences. This reinforces existing literature that highlights staff responsiveness and professionalism as central determinants of user satisfaction in academic libraries.

However, the study also identified several areas requiring targeted improvement. Satisfaction with the availability, currency, and diversity of information materials, especially recent academic resources was comparatively low, underscoring a pressing need for systematic collection development and enhanced access to digital resources. Similarly, library policies related to borrowing limits, loan periods, fines, and opening hours received only moderate satisfaction ratings. Both the statistical correlations and qualitative feedback clearly indicate that flexible borrowing policies and user-friendly operational procedures significantly influence overall satisfaction and engagement.

Digital access and website usability emerged as another critical concern. Users reported challenges in navigating the library website, accessing electronic resources, and locating academic content efficiently. These findings suggest that improvements in digital infrastructure, user orientation, and online service design are essential to meet evolving user expectations in increasingly technology-driven academic environments.

Correlation analysis further revealed strong positive relationships between overall satisfaction and factors such as borrowing policies, document delivery services, staff effectiveness, and the relevance of information materials. Notably, the strongest association was observed between the appropriateness of available materials and overall satisfaction, highlighting that quality and relevance of resources matter more than quantity alone. These results emphasize the interconnected nature of library services and the need for holistic, user-centered service enhancement strategies.

The qualitative thematic analysis complemented the quantitative findings by providing deeper insights into user priorities and expectations. Users consistently called for updated collections, improved digital access, flexible policies, expanded study spaces, and continued staff support. Together, these themes point to the importance of aligning library

services with academic workflows, examination demands, and diverse learning styles.

Hence, while the Library, Trincomalee Campus, Sri Lanka demonstrates strong performance in staff services and physical maintenance, sustained improvements in collection development, digital services, policy flexibility, and space optimization are necessary to further enhance user satisfaction. The study underscores the value of regular user satisfaction assessments as a strategic tool for evidence-based decision-making and continuous quality improvement.

RECOMMENDATIONS

Based on the study findings, several strategic measures can enhance user satisfaction and service effectiveness at the Library, Trincomalee Campus.

1. Strengthen collection development and resource relevance: The availability and currency of information materials significantly influence user satisfaction. The library should prioritize updated core textbooks, subject-specific resources, and expanded electronic collections, while incorporating user-driven acquisition mechanisms.

2. Enhance digital access and website usability: Given the moderate satisfaction with digital services, improving website navigation, search functionality, and access to e-resources is essential. User orientation programmes and online guides can further improve awareness and effective utilization of digital services.

3. Introduce flexible library policies: Moderate satisfaction with borrowing limits, loan periods, and fines suggests the need for policy adjustments. Flexible borrowing arrangements, extended loan periods during examinations, and reasonable fine structures could enhance user engagement.

4. Improve physical environment and study spaces: Although cleanliness and ambiance were positively rated, improvements in seating capacity, furniture quality, ventilation, and power outlets are necessary. Expanding study spaces and creating designated quiet and collaborative areas would support diverse learning needs.

5. Sustain and strengthen staff support services: Library staff support emerged as a key strength. Ensuring adequate staff availability during peak hours and continuing professional development programmes will help maintain high service standards.

6. *Expand document delivery and interlibrary collaboration*: Enhancing document delivery services and strengthening collaboration with other university libraries can improve access to specialized resources not available locally.

7. *Institutionalize regular user satisfaction assessments*: Regular user surveys and feedback mechanisms should be institutionalized to monitor evolving user needs and support evidence-based service improvements.

Studies could extend this research by including all users such as academic and non-academic staff to provide a holistic evaluation of library services. Longitudinal studies may assess the impact of service improvements over time. Comparative studies across Sri Lankan regional campuses would also help identify structural disparities and inform national-level library development strategies.

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